JUNIOR COLLEGE JOURNAL

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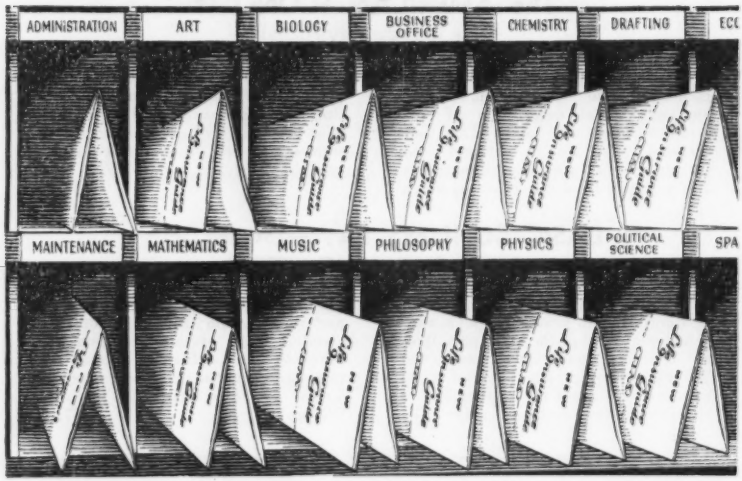

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JUNIOR COLLEGE JOURNAL

VOLUME XXX DECEMBER 1959 NUMBER 4

Tell the Story

MARVIN C. KNUDSON

TODAY THE junior college is in the spotlight as never before in its short history. It has been my happy privilege during the past few years to visit many junior college campuses. There is great diversity in these institutions—they vary as to size, purposes, organizational control and types of communities which they serve. Some have been strong institutions and some have not been considered quite so strong. Yet there is one element of great strength that is found consistently in evidence in all of these institutions, and that is the dedication of their faculties to the concept of good teaching. These faculty members seem to have a burning zeal to provide the best opportunities for learning that it is in their power to provide. Their first and foremost interest is in helping students learn.

Today, when federal, state and local legislative bodies and various agencies and commissions, the local press and national publications are studying the whole area of education beyond the high school, the effectiveness of the instructional process in these institutions becomes a matter of general concern, whether they are privately or publicly controlled. For many years the junior colleges have been stating that they do a superior job of teaching, and one is strongly inclined to believe that this is true. However, there is too little documentary evidence to support these claims. There is real need for intensive, continuing self-studies in our junior colleges to give evidence of the effectiveness, or lack of effectiveness, of our educational program. And there is a need for sharing the techniques, as well as the findings, of our soul-searching inquiries through the medium of our national publications and special releases.

In view of the public concern and the many conflicting conceptions of the functions of the junior college, there is an urgent need for each junior college to define its role clearly, not only in the community, but in American higher education. Some see junior colleges as primarily terminal institutions, or vocational institutions for adults, or feeder institutions, or "custodial" institutions for those unsuited for college-level work. Most of us recognize this need for a clear definition of the role of each institution. We know that such a definition should be developed by the faculty, administration and board of control of each institution as they see their role in the community and state. Somehow the definition must be publicized and made clear to the constituents so that they will understand the

unique functions of the junior college. There must be a clear understanding that junior colleges serve several major functions in higher education.

Many are asking today such questions as: Who should be educated beyond the high school? How rigorous should standards for admission be and how are these standards related to the goals of the institution? How can counseling be better used to reduce the drop-out rate? What is the proper role of the junior college in the state's program of education beyond the high school? Many state legislatures are taking a careful look at higher education. They are trying to find the answers to these and other questions. Now is the time for the junior college story to be told in each individual state, to the people of that state.

The time has long since passed when we ought to debate the proposition of whether we are secondary or higher educational institutions. Whatever the theoretical considerations, the fact remains that in the popular American concept, higher education begins after the completion of the 12th grade. The junior college has broadened the concept of what might be included in "education beyond the high school."

We in the junior college field are in the forefront of the greatest development in higher education ever to be experienced by any nation. It is not news to you that the junior college is an American invention in higher education and has made a significant contribution to the concept of education beyond the high school. The place of the junior college will be solidly established within the next few years. Where does your institution fit into the scheme of higher education in your state and in the nation? This is a time for dynamic thinking on the part of all junior college people and a re-evaluation of the philosophy and functions of these institutions. What are you doing to tell the junior college story?

The Relationship of Instruction to Accreditation

LEWIS B. MAYHEW

THE END result of an institution's preparation for accreditation and the accreditation process itself should be the improvement of instruction. For it is to the end of instruction of the young that schools and colleges owe their reason for being. This fact is recognized, at least in theory, by accrediting agencies, by those who examine colleges for accreditation, and by facilities of institutions themselves. As the various aspects of a college or university are examined, they are scrutinized on the assumption that they are somehow related to the kind and quality of instruction the institution provides.

Statements of objectives are revered by theorists and administrators, if not by faculty members who must fight the semantic battle in arriving at acceptable statements, because they are presumed to condition the type of instruction being provided. Thus an objective stated, "To develop in students unquestioning loyalty to a republican form of government," would scarcely be viewed as acceptable because of the clear implication for instruction that indoctrination is appropriate.

The financial condition of an institution is examined to determine whether or not it has the resources necessary to support an effective program of instruction. A small institution operating with an annual budget of four million dollars is presumed to be a better center for teaching than is a similarly-sized college with a three hundred thousand dollar budget. Among other abilities, the former institution can pay better salaries to faculty members. Adequate salaries are judged necessary for maximum teaching effectiveness either because better people can be attracted by higher salaries or good people can be freed of financial worries to concentrate on the job of teaching.

There is a myth in American collegiate education that the library is the center—the heart—of a college or university. The number and range of holdings and acquisitions are thus considered a good index of the health of the institution. If a college library has working collections of books in the various fields in which instruction is offered and devotes a reasonable portion of its budget to systematic acquiring of new and discarding of obsolete books, the inference is made that the instructional program is at least adequate. There have even been some consultants who claimed to be able to judge the caliber of a college strictly on the basis of its library.

In a similar vein the training of faculty members is assumed to bear directly on the quality of instruction. A college with a high proportion of Ph.D.'s, most of whom are teaching subjects comparable

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to those they studied in graduate school, is presumed to be better than one possessing a low percentage of faculty members with the doctorate. If the faculty also is active in publishing results of research, this is even stronger evidence of instructional quality.

The policies which govern admission of students, the kind of services available to students for their health, recreational and financial needs are also considered to have relevance. An institution which successfully fills its dormitories and classrooms with students of high aptitude is seen as a better college than one which attracts average or below average students. The presence of a resident physician is judged to be better than the availability of one on call. A functioning loan policy and an institutionalized system for advising students is better than no provision for these matters.

The spread of courses within the various subjects offered and the proportion of upper to lower level of courses are also judged important for instruction. If a college offers a chemistry major and lists in its catalog all of the courses specified by the American Chemical Society for undergraduate majors, the faculty takes pride in its strong chemistry department. If these courses are taught by several persons each of whom possesses the doctorate and each of whom carries out research, so much the better.

As a college embarks on preparing for accreditation, it frequently views its task as obtaining evidence with respect to each of these and similar factors in college life. Faculty committees engage in elaborate counting operations in which the number of doctorates, publications, books circulated, dollars spent on travel, and the like are compared with some norm or some prescribed minimum standard. To accumulate these sorts of statistics, the college faculty is divided into committees each of which is assigned responsibility for accumulating the figures on some aspect of the institution. While this work is laborious and time-consuming, it has the merit of resulting in tangible tables of figures. When these are compared with the averages for other similar types of institutions, judgments can be made and rationalizations invented for unfavorable showings. The accumulation of the reports from all committees when bound together with certain philosophical statements about the institution are supposed to yield a somewhat objective picture of the institution. If, as sometimes happens, the college's figures place it in the upper percentage of all similar institutions, the faculty is almost certain to arrive at a conclusion, later to be validated by the accrediting agency, that it has an outstanding instructional program.

After a college has made a study of itself, an accreditation team pays a visit to see at first hand whether or not the college is indeed an effective medium of instruction. This team spends its time looking at the physical plant, talking with administrative officers, examining records and chatting with faculty and student groups. The team does these things partly because it also makes the assumption that salaries, quantities of books, committee structures and the like are relevant to the quality of instruction. It also finds that such matters are easiest to quantify and eventually to reduce to a percentage index.

Very rarely, however, does a faculty preparing for accreditation or the agency

granting accreditation look directly at instruction as such. Many facets of collegiate education are scrutinized and evaluated, but the thing assumed central to education is dealt with only indirectly. Some will argue that there is no need to examine instruction directly since other factors are such sensitive indicators of instructional excellence. Others will not support this claim but will argue that in the absence of acceptable techniques for appraising instruction directly, the next best thing is to study those elements which can be viewed objectively. Neither of these positions is a satisfactory one, for each rests on the unwarranted assumption that certain external characteristics of a college actually determine the quality of the experiences provided students in the classroom or laboratory.

A more fundamental view of the accreditation process would make instruction the central focus of study. Instead of inferring that instruction is adequate if other factors in the institution are judged sufficient, one might study instruction directly and accumulate evidence on other matters insofar as they are explicitly related to instruction. At first thought, this may seem an artificial distinction between studying instruction through studying other matters and studying other matters through the study of instruction. Perhaps the validity of the distinction can emerge through some examples.

The usual process of preparing statements of objectives is for a faculty committee to discuss, almost as a philosophical exercise, the purposes of higher education, the broad purposes of the particular institution and how these can be expressed so as to satisfy the semantic differences among faculty members and so as to convince the accrediting agency that the institution really is concerned with those things the agency values. Some of the struggles of college faculties to make their objectives suggest a concern for general education is a case in point. After agreement is reached, the statement is incorporated in catalogs and other similar documents. Rarely is the attempt made to develop these objectives from the standpoint of instruction in which the entire faculty is asked to describe in behavioral terms the kind of product the institution would like to graduate, the kind of experiences most likely to yield such a product, and then to state objectives in such a way as reasonably to determine what goes on in the classroom.

Instead of accumulating columns of data about librarians' salaries, acquisition of books and raw circulation figures, a different kind of examination of the library would be necessary. Such questions as how, in fact, is the library used should be answered. Do students use it chiefly as a study hall? To what extent does each instructor make definite library assignments? Indeed, one could ask to what extent each instructor habitually uses the library himself, and perhaps to what extent he even refers to library resources in his classes.

The administrative structure and committee system should be viewed as what they are; i.e., devices to facilitate the free flow of faculty energies into teaching. Instead of preoccupation with a unitary or dual system of control, a great many or relatively few committees, divisional or departmental organization, other matters more appropriately could be reviewed. Is the faculty member able to get what he needs to teach his classes with the mini-

mum of effort? Does he, in fact, make demands on the administration for such service? Are his committee responsibilities appropriate for a faculty member, or do they involve effort which rightly should be expended by an administrative officer? How does the president or dean view his position? Does he feel he is the employer and supervisor of workers, or does he consider he exists to aid faculty members in doing that for which they were appointed?

With respect to the research productivity of the faculty, this should be appraised on some criterion other than quantity. First, what faculty members are actually engaged in research and how does their instruction compare with instruction of those not so engaged. There has grown up the belief that research is indicative of an inquiring mind and that this same mind is the one most likely to stimulate students. This belief needs to be probed. Further evidence should be accumulated as to whether or not teachers who do research relate it to what is important to students. Too frequently the researcher believes that since his work is important to him, it must be relevant in the lives of students. The prevalence of this belief and its validity ought to be examined.

The nature of the admissions policy should be studied but not with a view to making the college more and more like some other institution. Rather, it should be examined and revised according to the particular area in which the institution is located, the kind of student likely to attend, and the abilities of the faculty to provide a kind of instruction needed. To make this point more specific, a travesty would be accomplished if some midwestern college, with a run-of-the-mill faculty, were to seize upon the anticipated flood of students to restrict its enrollment to the upper ability levels. There is strong likelihood that a school could end up with a student body outclassing its faculty with respect to intellectual ability. That students forced by circumstances into such a situation would quickly become bored is a real possibility. Actually, the admissions policy must be determined on the basis of many different factors, the most important one of which should be the kind of student most likely to profit from the kind of instruction the institution is able to provide.

The curriculum similarly should be judged by the abilities of the faculty and the readiness of the student body to absorb instruction in particuar subjects. In place of a spread of courses in chemistry or physics being offered because good liberal arts colleges offer such courses, they should be taught only if there are people on the faculty and equipment on the campus to make this feasible. Most liberal arts colleges will offer courses on Shakespeare. One can question whether or not they should. An institution might provide a stronger curriculum and one better taught if the training and experience of faculties were not strained to accommodate subjects simply because a theoretical ideal includes them.

In addition to these and other similar specifics, this more fundamental view of accreditation also implies a different concept of educational research. The most prevalent practices of self-studies rely on comparison of local data with norms obtained from other similar types of institution. One finds out that students rank in a certain percentile on national norms on this or that test. One discovers that the

median salary paid is one hundred dollars higher or lower than the median for other comparable colleges, or that seven per cent of the budget goes for library expenses locally as compared with five per cent nationally. This sort of status research has its place, but its central position should give way to a more dynamic type of research. The lessons learned from anthropology, psychology and social psychology about the information obtainable from participant observers, socio-metric techniques and depth interviews should become an essential part of the accreditation process.

In theory, probably no one would take issue with what has thus far been said. Most teachers would agree that instruction is the core of education, that research should be dynamic and that the relationship of all aspects of the college to instruction is vital. While there is agreement in theory, there is little inclination to bring about the changes which can result in the improvement of instruction. In order to accomplish the shift several things must be done.

The instructional processes must be opened for the scrutiny and criticism of colleagues, administrators and, finally, the accreditation agency itself. There has grown up in America the feeling that the classroom is the exclusive domain of the individual faculty member. His salary may be decided by his leaders, his private life may be controlled by contractual agreements or by the sheer force of community pressures, but he has the feeling that what he does in the classroom is his own concern. Now, some of this feeling is warranted in an effort to preserve the heritage of academic freedom. However, if the institution is sincere about wanting to improve instruction, actual instruction must be observed and, when necessary, severely criticized. Only in this way can teachers be helped in improving their techniques for dealing with students.

If professors are to be expected to open up their classrooms for observation, they have the right to expect the best possible methods for observing and recording observations should be developed and used. Actually, the profession is much better off in this regard than it realizes. Some of the work done by the Office of Strategic Services in World War II in observing candidate operatives has provided some leads. The work of group dynamicists in plotting what takes place in a complicated social setting offers further hints. Even college education itself, through such work as the comparisons of lecture and discussion done by Bloom at Chicago, the elaborate check sheets developed by Simpson at the University of Illinois, and the casual method of administrator observation of teaching used by Morse at Minnesota, has provided some techniques.

But not only must instruction be observed as objectively as possible, it must also be appraised and judgments made concerning whether it is or is not effective. Here, again collegiate education may be in a better position than it realizes. Student ratings of teachers, for example, have been found to be remarkably consistent year in and year out. The achievement of students on common examinations when studied in relation to the particular teachers each student had also can be of value in reaching a judgment. Even further, there is the simple judging of whether or not a given act of teaching could be reasonably expected to produce the hoped-for results. If a course in German is expected

to develop an appreciation of German culture and is conducted by rote drill of German declensions, one can make the legitimate judgment that the teaching is ineffective. If a course is designed to teach students to think critically, but day after day a student simply records spoken information in his notebook, a similar judgment is appropriate. A communications skills course which is intended to develop facility in language but which concentrates on textual criticism can also be judged entirely on what one sees.

Human behavior is controlled by many means, but in all control there is some provision for sanctions, that is, rewarding satisfactory behavior and punishing unsatisfactory action. If a college is interested in making the improvement of instruction central in its program for reform, sanctions must be applied. The administration should systematically collect all manner of information about the teaching of each faculty member. This would consist of such things as student judgments, student test scores, results of observations, teachers' judgments of their own performance, and even the opinions of graduates and former students. These data should be studied with each instructor and their meanings interpreted. If they suggest need for change, this should be brought about. If after several semesters the data suggest the teacher is ineffective and is making no effort to change, he should be encouraged to move. Even though a person might be an effective public relations person or a respected scholar or a good administrator, if his primary duty involves teaching he should be judged on the basis of his performance in that activity. If the institution has the relevant resources to support an effective teacher in some activity more suitable for his talents, this obviously is a happy solution. If, however, an individual with scholarly talents is judged an ineffective teacher in a college unable to subsidize pure research, he should be urged to find a new position.

This may sound like a harsh doctrine but it appears the only one which can really bring about necessary improvement. In one institution, for example, the head of one department accumulates a variety of information on faculty members' teaching and reduces these to a teaching index. Through his promotion, salary, tenure and termination prerogatives, he rewards those teachers consistently showing high index, and penalizes those showing low ones. The alumni of that institution consistently rank the instruction in that department markedly superior to that in the other departments. Of course, the doctrine needs to be put into effect with a degree of prudence and with full regard for the contractual rights of teachers. But the improvement of teaching ought to be regarded as a higher value than maintaining inadequate teachers in classrooms.

In line with this doctrine is the need for the administration to keep the curriculum within the limits of the abilities of its faculty members. Frequently, in an effort to provide a wide variety of courses with which to attract students, teachers are saddled with heavy teaching responsibilities involving many different preparations. It is very doubtful if even the most gifted teacher can do an adequate job in offering five three-hour courses involving four different preparations. Where he is required to do so, he is forced to the expedient of teaching from a textbook. He

cannot be expected to assign library work, research papers, conduct conferences, and prepare himself in depth in the face of such a load. If an administration is honestly trying to improve instruction, it would limit its curriculum to what it can honestly offer regardless of what other institutions are doing. If it cannot do this and still attract students, then it should close its doors and let its students seek more acceptable education elsewhere.

With respect to each of these matters, the accreditation agency has a similar responsibility to accept courageously the implications of a concern for instruction. Reports of self studies which do not clearly embrace the issue of instructional effectiveness should be regarded as insufficient to warrant further immediate consideration. Examiners should be clearly enjoined to study instruction at first hand and to make their observations and judgments central in their report. Boards of review and similar agencies must then give serious attention to these judgments. For example, a liberal arts college, well supported, and having a highly trained, productive faculty but with an indifferent concern and performance with respect to instruction, might be considered unfit as an undergraduate teaching institution.

A second major effort to place greater emphasis on instruction involves questioning many of the assumptions currently held regarding teaching. For example, a class which meets routinely three times a week is accepted as normal and few questions are raised. However, if an institution decides to accomplish the same purposes with one class meeting per week and heavier student out-of-class effort, it must answer questions regarding how the accrediting agency will view the innovation. Similarly, the small class has been so elevated to a position of veneration that a college with an average class size of fifteen is judged considerably better than one typically having classes of thirty or forty. Actually, there is no evidence that size is of any significance in determining teaching effectiveness. An institution genuinely interested in the improvement of instruction will call into question every one of the sacred cows of teaching before accepting them as defensible parts of the curriculum. And the accreditation agencies should do the same thing. Just consider what kinds of changes could be brought about if one were realistically to examine such a proposition as: "Students spend two hours of study for each hour spent in class." Under the present scheme of collegiate education this statement is just not so. This means either that it should cease being stated or definite steps should be taken to make it a valid principle.

Another assumption is that the person who knows most about a subject is the one best able to teach it. Much of the selection of college teachers is based on this belief with considerable effort being expended to find the most thoroughly trained person to teach each subject. Now, obviously, training is necessary, but it is just possible that the virtues of intensive training in a specialized field have been overemphasized, particularly for lower level courses for undergraduates. At any rate, the matter is in need of some examination.

A third method which could be used for the improvement of instruction might be to devote a larger share of the available educational dollar for purely instructional affairs. First, administrative people

might well take over much of the routine which is currently handled by teachers. There has grown up the belief that a democratic college requires teachers to do a lot of purely administrative work to insure them a voice in controlling their professional destinies. Faculty committees are created one upon another to do things which could more efficiently be done by an administrative officer. Actually, the faculty can control the institution through a few broad policy making committees, leaving for the dean such matters as arranging for the commencement program, deciding whether buildings are safe for smoking or tabulating the results of an alumni questionnaire.

Beside shifting some of their administrative duties to administrative officers, teachers might be granted a larger share in the institution's travel budget. A typical pattern is for administrative people to attend meetings as official representatives of the college and to receive full expenses. Teachers are encouraged to attend one meeting per year with the encouragement of a few dollars to help out on the expenses of the trip. A more equitable distribution of money for such purposes might be made. The very fact that the attempt was made might suggest to teachers that their instructional functions were valued. Possibly, if even the president were willing to forswear some of his travel, the institution might survive and the money saved could be used to encourage a teacher to improve.

Of even greater significance might be some adjustment of salaries of professors and administrators. At the present time the typical pattern reveals a fairly marked differential between the salaries paid teachers and those paid administrative officers. Some of this is warranted, but perhaps if the institution were really serious about the improvement of teaching, at least a few of the best teachers would be paid salaries equal to that of the dean or president. To do this, of course, does require making the most objective possible study of teaching effectiveness.

One further suggestion can be made for the improvement of instruction. This involves a reorientation of the ethics of the teaching profession from a scholarly to a teaching set. At the present time the concept of academic freedom rests on the notion that the professor as scholar should be free to seek the truth as he chooses and to teach such truth he thus determines. The guardianship of the sanctity of the classroom is in part conditioned by this concept. The concept of tenure is similarly rooted in the belief that a life dedicated to scholarship demands the tranquility of mind which permanent tenure helps provide. Since scholarship requires long and patient search for the last possible evidence, there cannot be enforced an urgency characterizing other professions. The relationship of the teacher to his students is also determined in part by the scholarly tradition. He is the master and students have the responsibility for acquiring what he chooses to teach them. Now all of these are valid conceptions in Western society. They do need to be tempered with another set of beliefs. The teacher is not unlike the lawyer or the doctor whose first obligation is to his client or patient. It is the well-being of the recipient of services—mutually agreed upon—

which decides the action of the professional person. The professor might therefore regard the student as the chief object of his solicitude—not something which gets in the way of the professor's own scholarly interests. If just this were to come about, giant strides would have been taken to improve instruction.

This I Tried and Found Helpful

First-Year Modern Language Courses

Gloria C. Winslow, Chicago City Junior College, Chicago, Illinois

Teachers using the oral-aural approach to foreign language instruction for the first time frequently complain that the material is imperfectly learned and that the method results in a "parrot-like" command of the language, i.e. ,the student repeats a pattern sentence without thoroughly comprehending the construction and thus easily forgets or distorts that which has been learned.

Whereas a typical student taking a required course will suffer through a class in silence, evening students who are sacrificing leisure time to learn a foreign language are unrelentingly analytical of their own progress and the teacher's methods. Memorizing "Why don't you sit in that armchair?" in a foreign language will not provide such a student with a sense of accomplishment unless he can relate the phrase to an actual situation. To enable the student to do this, numerous variations on the original textbook conversation are used. These, of course, presuppose thorough familiarity with the original text. One way is to have a student relate the contents of the conversation, in the third person, to the class. This is much more interesting than the usual exercise requiring: "Change all sentences in the conversation to begin "Mrs. Schmidt says . . . ," etc. Books must be kept closed, and the students are expected to note mistakes and supply corrections. Nothing is more fatal to the success of the oral-aural method than the impression that the teacher is carrying on a two- or three-way conversation with the students who happen to be "conversing" at the moment.

A student is then delegated to ask questions of other students, based on the assigned conversation. Fluent but incorrect speaking is avoided by requiring a student to repeat twice, correctly, any sentence containing an error. The error is then explained, and it has been observed that "grammar" treated in this manner is remembered more easily than that handled in rote drills since it is more relevant to a speaking situation.

Teaching by this method requires constant alertness and ingenuity on the part of the instructor, but the reward is a shared feeling of progress which more traditional methods do not often bring.

Equating Junior College Teacher Loads

RAYMOND J. YOUNG

ONE OF the major problems in school personnel administration is the assignment of teacher loads on an equitable basis. This problem has been of concern to both secondary schools and colleges or universities for a considerable period of time. Accrediting agencies have recognized a maximum load for both levels of instruction beyond which it is assumed the quality of instruction diminishes.

The school administrator periodically faces the practical problem of making staff assignments to accomplish effectively the total task and to discharge the functions of the educational institution for which he is responsible. He must face the task of distributing assignments so that the volume and variety of work to be done is executed most effectively by those most competent to do it in order for the total institutional function to be accomplished. In addition, he is simultaneously faced with the problem of providing for an equitable distribution of work among the several staff members. Failure to do so can result in serious morale problems that impede the effectiveness with which the total institutional function is discharged.

The Need for Research. Although various procedures and formulae for determining teacher load in junior and senior colleges have been devised and experimented with in individual institutions (the best-known of which is the Douglass Teaching Load Formula), little attention seems to have been devoted to this matter by researchers. Little on the subject appears in the published educational literature for the preceding 30 years, although undoubtedly various institutions have prepared the results of their studies in duplicated form for limited circulation. An exception is a recent report from Clark College.[1] Some of the existing research reported serves to point up one or more of the problems encountered in equitably assigning teaching loads, but little attention has been devoted to offering a practical solution. The few that have been proposed do not seem to be based upon a scientific factual basis.

A search of the published literature revealed that only Lyon[2] has proposed a formula for evaluating teacher load in junior colleges. It takes into account a number of important variables; however, arbitrary values and weights which appear to have no basis in fact were assigned various aspects of the load formula.

The need for time analyses studies of

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[1] L. D. Cannell, "Apportioning Straws to Camels' Backs," *Junior College Journal*, XXX (September, 1959), 3–5.

[2] L. H. Lyon, "A Plan for Evaluation of Teacher Load," *California Journal of Secondary Education*, XX (October, 1945), 346–349.

college level instruction has been expressed.[3] This approach was further supported by Knowles and White[4] who recommended the application of industrial techniques of job analysis for each task to be performed as a basis for faculty load assignment and for equating teaching loads. They deemed traditional approaches using student credit-hours or semester hours as inadequate because of gross inequalities in amounts of time and energy required of instructors in different fields whose semester-hour loads might be identical.

In a study of 228 instructors located in colleges throughout the country whose average experience was over 10 years of teaching, evidence was found to substantiate the claim that time loads cannot be reliably measured by the semester hour or student hour credit carried by a course. The assumption that an instructor of college level courses would need to devote approximately three hours weekly, one in class and two in preparation, conferences, correcting papers, etc., for every semester hour assigned to him was found to be in error by these investigators. Among ten courses studied and typically found in colleges, the ratio of total time requirements to semester hour credit assignments was found to vary from 2.9 to 1 for teachers of analytic geometry to 5.5 to 1 ratio for teachers of English composition. All respondents agreed that an instructor must devote appreciably greater amounts of time when offering a course for the first time than will be required in subsequent years. Also, the diminished time requirements of duplicate sections was another factor identified as one to be considered by an administrator in assigning loads.

In emphasizing the need for applying modern techniques of scientific management for evaluating teaching loads in a reliable and meaningful way, Knowles and White state, "Application of the techniques employed by industry to determine what should be required of the industrial worker demonstrates that faculty administrators cannot make load assignments that are equitable to all concerned unless the detailed requirements of the various elements that compose these loads are known in advance."[5] They further point out the variations in college course objectives, content, difficulty of presentation, and student groups served and conclude that ". . . those charged with making teaching assignments should not continue to use traditional criteria which fail to take account of these differences."[6]

The Problem of Joint High School-Community College Assignments. With the advent of public community junior colleges established as part of the common school system as upward extensions of secondary education in districts maintaining a high school, new problems of equalizing teacher load appeared. This is especially true in instances where the two educational units are housed together and where, because of limited enrollments in grades 13 and 14, it becomes more economically practical for staff members to teach at both levels. Teachers assigned entirely to high school teaching are prone to

[3] Elene Michell, "The Need for Time Analysis of Instruction," *Journal of Higher Education,* VIII (June, 1937), 311–314.

[4] A. S. Knowles and W. C. White, "Scientific Management as a Tool of College Administrators," *Journal of Higher Education,* XI (March, 1940), 130–134.

[5] *Ibid.,* pp. 133–134.

[6] *Ibid.,* p. 134.

view with envy those assigned full- or part-time teaching responsibilities in grades 13 and 14. Traditionally, college level classes have been assigned in such a way as to allow the professor an equivalent of two hours preparation time and opportunity to do scholarly study for each hour in the classroom. Such a time allowance is calculated as necessary for enabling him to expand his comprehension of the field and to keep abreast of all recent developments or new knowledge. Tacitly, it has been assumed the depth, level, and scope of knowledge necessary for high school and for keeping abreast of the times are less than for the college level. Although emphasis has been focused in various ways (e.g., association memberships, in-service education activities, workshop attendance, etc.) upon the need for high school teachers to "keep up," the amount of time necessary for class preparation and for study to teach effectively at that level is generally thought to be considerably less.

General accepted practice has been to consider the desirable maximum teaching load for high schools as 25 class periods, or approximately 25 hours, in the classroom per week. For college level teaching, it has been considered as 15 semester hours or less, depending upon whether the individual were expected to do research, committeework, or discharge administrative tasks. Obviously, some satisfactory means is needed for equating college level teaching loads, especially in the case where a portion of the assignment is at both levels. No research has been reported in connection with the latter problem.

Studies of Junior College Teacher Load. Teacher loads in 87 of the 131 public junior colleges existing in 1928–29 were studied by Ralph Bush.[7] Findings were analyzed by three categories of enrollment size for a dozen different subject areas. At that time, the median recommendation of junior college administrators was 15 semester hour loads for teachers in business, English, home economics, mathematics, science, and social studies. In the areas of music, art, foreign language, mechanic arts, and physical education, an 18 semester hour load was recommended as proper. Except for a median load of 16 semester hours found for mathematics teachers, practice in load assignments of instruction was found to coincide with the recommendations.

Although the mode for recommended number of semester hours in foreign languages as a proper load was 18, the range for administrators of junior colleges enrolling over 100 students was 12–20 semester hours and for those enrolling less, 10–25 semester hours. For mathematics, the semester hour range for schools with over 100 enrollment was 12–20 hours, while for small schools it was 10–20. The ranges for biological science teachers in small, medium and large size junior colleges were 12–25, 12–18, and 8–21, respectively. For physical science teachers, they were respectively 10–21, 12–18, and 8–21 semester hours according to enrollment size.

About 10 years later, Conley[8] obtained information from 1,020 public junior college instructors in 15 departments to determine the "clock hour" teaching loads.

[7] "Teacher Load in the Junior College," *Bulletin of the Department of Secondary School Principals,* XXIX (March, 1930), 253–262.

[8] W. H. Conley, "The Junior College Instructor," *Junior College Journal,* IX (May, 1939), 507–512.

He found in the fields of art, agriculture, engineering, and biological and physical science the classroom teaching load exceeded 20 hours per week for the average instructor. In commerce, home economics, mathematics, natural science, physical education, and social science, the load was between 16 and 20 hours per week. In the fields of education, English, language, and music, less than 15 clock hours were spent in the classroom per week. He found that on the average public junior college teachers spent 17.7 hours per week in other instructional duties including out-of-class preparation and conferences. However, the amount of time spent this way varied from 21.7 hours for teachers of social science to 11.0 hours for those in physical education. The average amount of time per week spent on instructional duties by all teachers was 35 hours divided almost equally between classroom and non-classroom duties. In addition, instructors averaged 16 hours per week in other duties such as student activities, administration, and various miscellaneous duties. Thus, he found the average total time devoted per week to the job to be 51.4 clock hours in public junior colleges. He found the average time for instructional duties of 143 private junior college instructors to be 34 clock hours, but the *total* weekly time was 53.9 clock hours.

Responses from 716 instructors and 49 administrative officials in 51 local public junior colleges revealed in 1941 that the average junior college teacher had three or four junior college classes requiring three preparations and meeting 12 hours per week.[9] Many gave instruction in other school units where they taught three or four classes meeting nine or ten hours per week. The majority assumed extra-class responsibilities requiring on an average of four and one-fourth hours per week. Of the respondents teaching only in junior college (six per cent), an average class-hour load of 14.7 hours per week in 4.5 different classes requiring 3.6 different preparations was found. Instructors also teaching in another school unit averaged 12.2 hours and taught an average of 2.3 different junior college classes requiring 1.5 preparations and 7.4 class hours per week.

Wellborne[10] found in a study of 647 Texas junior college teachers in 21 institutions that the average weekly teaching load was 23.26 clock hours, and the average number of semester hours was 16.36. Three-fourths of the teachers reported duties other than teaching on campus, and nearly one-half reported some kind of off-campus community service duty. The average number of additional hours for duties on the campus or in connection with teaching was 11.03 per week, and the average number of hours instructors spent in off-campus service was 4.1. Total clock hour loads per instructor averaged 36–58 hours per week, and the total load in semester hours was 20.65.

In a study of 100 junior college mathematics teachers from eight central states, the median number of teaching periods taught per week was found to be 17.2 with a range from 4–33 periods.[11]

[9] L. A. Garrison, "Preparation of Junior College Instructors," *Junior College Journal*, XII (November, 1941), 135–141.

[10] W. L. Wellborne, "Professional Load of Teachers in Junior Colleges," *Texas Outlook*, XXXIV (October, 1950), 23.

[11] H. G. Ayre, "On the Status of Teaching Load, Salary, and Professional Preparation of

Twenty-three per cent reported teaching from one to six junior college classes in departments other than the one to which they were assigned primarily, and 33 per cent taught from one to five high school classes.

During 1956 four staff members of Compton College, a public junior college, conducted a telephone survey of 66 California junior colleges to determine how their work load and extra compensation schedules compared with other such institutions in the state.[12] All junior colleges were found to be continuously attempting to ameliorate work loads and extra compensation schedules, and many were resorting to elaborate formula techniques. To a great degree, work load formulas were determined by size of district and need for flexibility due to class size fluctuations and total enrollment.

In the straight lecture areas such as English, social science, and psychology, a normal load was considered to be 15 semester hours by 25, or 48 per cent, of 52 schools reporting; three indicated it was 17 hours; four indicated 18 hours, and four indicated normal loads to be between 21–25 semester hours. The others indicated a range of from one to five hours with the maximum being no greater than 20 in two instances, no greater than 18 in four, 17 in one and 16 in the other. The most common minimum of the range was 15 semester hours, although it was 14, 16, 17, and 18 hours in one instance each. Typically, loads in straight lecture areas are adjusted upward if instructors have small classes or classes not requiring a great weight of paper work.

In 1957, administrators of 13 public and seven private Illinois junior colleges were queried about teacher load practices.[13] Of nine officials responding, five indicated one five-hour per week high school class was counted equivalent to three class hours per week of junior college teaching, and one indicated it was counted as three to four junior college class hours. Three officials indicated one five-hour per week high school class was counted equivalent to one three- or five-hour junior college class.

Administrators from seven public junior colleges indicated that a 15 semester hour load was considered a minimum teacher load, except that one requires teachers to be in attendance a total of 25 hours per week (study hall, homeroom, etc.). One each indicated the minimum load to be 12 and 13 hours respectively. Two deans indicated 15 semester hours as the optimum load. A majority of both public and private junior college officials indicated 18 semester hours as the maximum load, while, except for one public junior college where the maximum was 19 semester hours, all other respondents considered as maximum loads less than 18 semester hours. One administrator indicated maximum load as five classes and three classes as the minimum.

Mattila[14] surveyed the practices fol-

Junior College Mathematics Teachers," *Mathematics Teacher,* XLIII (February, 1950), 54–60.

[12] Foster Davidoff, "Compton College Teacher Load Survey," *Junior College Journal,* XXVII (March, 1957), 377–380.

[13] Data from questionnaire responses in the files of R. Birkhimer, Junior College Specialist, Office of State Superintendent of Public Instruction, Springfield, Illinois.

[14] A. J. Mattila, "Teacher Load in California Public Junior Colleges" (Unpublished Doctor's thesis, Stanford University, 1958).

lowed by 39 California junior colleges in assigning teacher load, examined the instructional assignments of 1,686 instructors teaching in 17 different subject fields, elicited attitudes of 888 instructors toward their teacher loads and consolidated recommendations on load of junior college professional organizations, faculties and specialists. His findings supported a recommendation that 15 lecture hours per week should be the base for assigning load.

Status studies of practice in junior college teaching load assignments and requirements indicate that some differentiation is made among teachers of different subject fields. Apparently some subject fields are considered to demand more of the instructor than others. The question that arises is whether or not assignment practices as they exist are in accord with the actual demands that are made on the instructor in the several subject fields.

The Equating of Laboratory-Type Assignments. A specific question in load assignment relates to how teachers of courses involving laboratory sessions should have them counted in the total load. Regarding the equating of laboratory periods Lyon[15] suggested that ". . . a distinction must be made between laboratory periods in which the instructor is in constant attendance and those in which the instructor is relatively free to grade papers or to do similar work."

The practice of counting two laboratory hours in the sciences as equivalent to one recitation hour was strongly protested by the Virginia Academy of Science when it adopted a recommendation for urging a regional accrediting agency to equate them hour for hour. A summary of the argument contained in the recommendation stated in part:

> . . . experience does not sustain the inference that an hour's teaching in the laboratory requires less total time, energy or quality of effort than one hour of instruction by lecture. Indeed, when it is taken into account that collection of materials and construction of equipment and the care of materials and apparatus are usually a part of the burden of laboratory instructors, it must be recognized frankly that an hour spent in the laboratory represents quite as great a load as does an hour of lecture-room effort.[16]

In spite of the early strong protestations issued in Virginia against the practice of differentiating between lecture and laboratory hours in load determination, the status of practice in California favors such differentiation. For lecture-laboratory courses in the sciences, most of the 66 California junior colleges studied by Davidoff[17] were found to adjust loads on the basis of *one hour of lecture being equivalent to two laboratory hours.* Forty-six, or 90 per cent, of 51 schools responding to the question indicated the normal load for instructors in such courses to be between 20–25 contact hours. In such areas as art, music and foreign languages, a great majority of schools were found to apply a lecture-laboratory type approach to load determination with most colleges using a sliding scale that brought normal load hours between 18 and 25 semester hours. Instructors of industrial education courses in most colleges were scheduled on a ratio that approximates two hours for every hour normally assigned to a straight

[15] *Op. cit.*, p. 346.

[16] "The Teaching Load in Laboratory Sciences," *School and Society,* XXXVI (August, 1932), 237.

[17] *Op. cit.*, p. 378.

lecture course; therefore, the majority of those instructors teach between 25–30 hours. Teachers were not found to be reimbursed for sponsoring extra-class activities, and coaching was considered as part of the total teaching load of instructors in physical education.

In the Illinois study mentioned above it was found that the most prevalent practice was to weight two laboratory sessions as equivalent to one lecture class period. However, one public junior college reported the practice of weighting science laboratory sessions hour for hour with other class sessions. Practice in Illinois private junior colleges was to weight two laboratory sessions as equivalent to one lecture session.

Evidence obtained by Mattila[18] on hourly work weeks and assignment practices supported the recommendation that instructors teaching laboratory sections could be assigned more classroom hours than instructors teaching only lecture sections. The former spent, on the average, less time in out-of-class instructional activities than did those teaching lecture sections solely; however, the amount of weight which the laboratory section should be given was not distinctly apparent. Of 26 junior colleges found to be using a ratio of laboratory hours to lecture hours, 14, or about 53 per cent, equated them on a two to one ratio, and 12 used a one and one-half to one ratio. The study revealed that the largest percentage of instructors expressing dissatisfaction with number of classroom hours were those who taught laboratory sections.

The majority of Illinois public and private junior colleges were found to add extracurricular duty and sponsorship assignments to the teaching hour load, but in four public and one private institution such assignments are *included* in the overall daily or weekly hour load assignments considered as between the minimum or maximum hour loads. Teachers in four public junior colleges are reimbursed for major extracurricular duty assignments.

Several years ago, L. V. Koos[19] studied non-instructional responsibilities of 1,228 junior college teachers in 48 public junior colleges. He found that only slightly more than one-third of all the cooperations represented were assigned fractional allowances of teaching load. Only when those responsibilities involved a substantial addition to the work load was an allowance for part of the load made.

A Preliminary Study of Junior College Teacher Load. During the spring, 1958, teachers of 273 junior college classes and 297 high school classes in several Illinois junior colleges were invited to record for one week the amount of time spent outside of class in preparation for each subject taught. Other data obtained included (1) length of class period, (2) number of times classes met weekly, (3) the number of pupils in each class, (4) whether the class was an original or duplicate section, and (5) whether it was a junior college or high school class. The week selected was deemed to be as typical as possible. It avoided times adjacent to holidays, final examinations, and major school contests.

Deans of several Illinois junior colleges cooperated in the study by distributing

[18] *Op. cit.*

[19] "Junior College Teachers' Cooperation," *Junior College Journal,* XIX (March, 1949), 399–411.

and collecting the printed "Time Record Blanks" and in securing cooperation of all teachers assigned part- or full-time as regular junior college teachers. Code numbers were assigned to each subject area and to each subject within the area to facilitate use of IBM equipment in processing the data.

Comparison of Out-of-Class Preparation Time for High School and Junior College Teachers. The investigation sought to determine what difference, if any, there might be in amounts of time devoted to teaching junior college and high school classes in the same subject fields. Further, it sought to determine what relationship might exist, if any, between the loads at each level based on teaching responsibilities only. Periods of cooperation such as club, class, or organizational sponsorship, homeroom and study hall management, etc. were not taken into account for this purpose.

Presented in Table I for each subject field are the mean weekly numbers of minutes reported as spent in out-of-class preparation by teachers of classes at both levels and for both original and duplicate sections. Observation reveals that, in general, considerably less time in out-of-class preparation is demanded by duplicate sections than by original class sections. Also one may observe that, in general, for both duplicate and original class sections, greater expenditures of time for out-of-class preparation are made by teachers of junior college classes than by teachers of high school classes.

From data in Table I it can be determined that (1) mean weekly out-of-class preparation time for all teachers of original sections in grades 13 and 14 is *28 per cent* greater than for all teachers of original sections in high school, (2) for duplicate sections of classes mean weekly out-of-class preparation time for teachers

TABLE I

Mean Weekly Preparation Time (Minutes) Out-of-Class

	Original Section		Duplicate Section	
Subject Area	High School N = 183	Junior College N = 213	High School N = 114	Junior College N = 60
Science	248.64	256.67	115.14	166.37
Language Arts	228.20	300.76	124.32	275.46
Foreign Language	174.13	200.50	112.00	150.00
Social Science	197.50	245.82	135.50	150.00
Music	108.46	115.83	123.40	75.00
Business	125.18	273.17	102.00	204.00
Health	185.25	163.67	156.73	210.00
Education	.....	218.33	.....	.....
Agriculture	320.00	270.00	.....	.....
Industrial Arts	108.18	277.50	115.00	202.50
Mathematics	178.89	173.39	146.38	67.86
Home Economics	152.50	222.20	78.33	.....
Art	97.22	141.67	.....	95.00
All Subjects	167.62	214.28	125.07	173.88

of junior college classes was *39 per cent* greater than for teachers of high school classes, (3) mean weekly out-of-class preparation time among teachers of junior college classes was *23 per cent* greater for original than for duplicate sections, and (4) out-of-class preparation time for high school duplicate sections was .76 times as great as for original sections.

When the mean weekly time spent in outside-of-class preparation per class is determined, it is found that, for original sections, teachers of junior college classes spend two-thirds (66.7 per cent) more time *per class* than do teachers of high school classes.

Comparison of Total Mean Daily Time. A picture of the mean total time spent both in and out of class by teachers of high school and junior college subjects was determined. The mean weekly time in out-of-class preparation for each subject field for both levels of instruction was divided by the mean number of times classes were found to meet each week to obtain the mean daily time. To this was added the average period length for each subject area. Results are presented in Table II. Except for the subject area of music, the total mean daily time spent both in class and in out-of-class preparation for teachers of junior college classes was greater for both original and duplicate class sections than it was for teachers of high school classes.

Subject Load Differences. Refined methods of computing teacher load take into consideration the differences in requirements of teaching in different subject areas. For example, teaching three semester hours of mathematics may not be equivalent to the load imposed on persons teaching three semester hours of language arts. To determine whether or not differences exist and to identify which subject fields impose the greatest relative load, subject area coefficients were derived. They were found to be as follows for original junior college class sections:

Science	.70	Music	.47*	Agriculture	.66*	Art	.48*
L. Arts	1.00	Business	.97	I.A.	1.01*		
F. Lang.	.58	Health	.70*	Math.	.56		
S. S.	.84	Edu.	1.06*	H. Economics	.99*		

* An insufficient number of teachers was included to place much confidence in the stability and validity of the coefficients in these fields.

On the basis of mean daily time spent in class and in out-of-class preparation, teaching a class in junior college mathematics was found to be equivalent to a little over half as much time load as teaching a class in the language arts. Further research is needed for validating subject area coefficients, but the findings suggest that large differences do exist among the different subject fields in time demands on a junior college instructor.

Methods of Equating Load Explored. One method for equating loads is to consider amounts of junior college class hours as being equivalent to 1.6 times as many high school class hours. This is based on theory of 25 and 15 hours per week desirable maximum loads for high school

TABLE II

Total Mean Daily Time (Minutes) Spent on Classes

Subject Area	Original Section				Duplicate Section			
	Junior College		High School		Junior College		High School	
	Time	N	Time	N	Time	N	Time	N
Science	118.92	30	107.16	14	139.18	8	78.26	14
Language Arts	177.21	34	95.41	30	173.17	11	72.74	28
Foreign Lang.	102.52	10	86.09	15	78.00	1	73.58	11
Social Science	149.35	34	99.20	18	90.56	15	69.70	10
Music	84.06	6	90.75	13	71.06	3	90.13	5
Business	172.50	18	80.08	22	153.95	8	75.86	11
Health	124.71	9	95.46	8	119.41	4	86.07	15
Education	187.95	6	.....	....	.....	....	.....	....
Agriculture	116.50	1	140.00	2	.....	....	.....	....
Industrial Arts	178.54	4	130.54	11	212.50	2	98.00	1
Mathematics	99.28	23	87.32	19	160.92	7	81.20	13
Home Economics	176.56	5	95.80	12	.....	....	64.17	6
Art	85.75	3	69.00	9	74.00	1	.....	....

and junior college teachers respectively. According to this scheme, nine semester hours of college teaching are equivalent to approximately 14 hours, or almost three high school classes. Under this plan an instructor teaching nine semester hours in junior college would not be expected to teach more than two high school classes; one teaching three high school classes would not be expected to teach over six semester hours of junior college classes.

From the preliminary study reported here, teachers of junior college classes devote two-thirds more time for original section *per class* than do teachers of high school original classes. On this basis, nine hours a week in junior college original class sections are equal to 13.5 original high school class hours or close to three high school classes. According to data from this study, in general, a junior college duplicate class section requires .8 the total daily time that an original one does. (Douglass found that, in general, for all subject fields high school duplicate sections require .9 the time original ones do.)[20] A rough application of this factor in equalizing loads may be made even if differences in load requirements arising from the differences in subject fields themselves are not considered. For example, a junior college instructor teaching one three semester hour original section and two duplicate three semester hour sections would have a load equivalent to eight hours of original class sections per week or 13 high school original class section meetings. Such a teacher should not be expected to teach over one original and two duplicate high school class sections.

Data indicate that for a rough rule of thumb method of equating high school

[20] H. R. Douglass, "Applying the Revised Douglass Formula for Measuring Load of High School Teachers," *Bulletin of the National Association of Secondary School Principals*, XXXVI (October, 1952), 67.

and junior college teaching loads, one is justified in counting the latter as equivalent to two-thirds more high school class hours, or .6 times as many hours.

A Proposed Method of Equating Load. Data indicate that differences exist in total time requirements among the different subject fields and between high school and junior college levels of instruction. Since this is true, methods of equating teacher load on the basis of student credit hour loads or semester hour loads are inappropriate as suggested by Knowles and White[21] earlier, for they do not take account of very significant variables affecting teaching loads. To enable comparative studies among various junior colleges or among teachers within a given institution, some means must be employed to take into account such factors as differences in load ascribed to different subject fields, number of weekly class periods, reduced requirements of duplicate sections and variations in period length. The factor of extra-class periods of cooperation (club sponsorship and the like) has not been adequately studied at the junior college level, but indications from the information available are that fractional allowances of teaching load are made at this school level only when they are deemed to involve substantial additions to the work load. The proposed formula below for equating load does not take this factor or time allocated for research, administrative responsibilities, or advisement and counseling of students into account.

Although additional research is needed as a basis for further validating subject coefficients and permitting quantitative refinements in calculating load equivalents, an adaptation of the Douglass formula for this purpose seems desirable. Since in some instances teachers will teach at both high school and junior college levels, adaptation of the formula has advantages in permitting its application at both levels for arriving at comparable combined quantitative reductions of load. The formula to be used for junior college level instruction is given as Formula I. The legend is given following Forumla II.

FORMULA I

$$TLU = SC\left[1.6\left(CP\text{-}\frac{DP}{5}\right) + \frac{NP\text{-}18CP}{100} + \frac{PL+50}{100}\right]$$

For calculating the portion of a teaching load at the high school level when assignments are at both levels, the following formula should be used:

FORMULA II

$$TLU = SC\left[CP\text{-}\frac{DP}{10} + \frac{NP\text{-}25CP}{100} + \frac{PL+50}{100}\right] + .6PC\left[\frac{PL+50}{100}\right]$$

SC=Subject Coefficient.
CP=Class periods per week; double periods are counted as two periods each.
DP=Number of duplicate class periods; (the second period of a double period is counted as a DP).
NP=Total number of students in all classes for one week with those in double period classes counted twice.
PL=Period length in minutes.
PC=In Formula 2, PC is the average weekly number of class periods or equivalent time over a semester spent in high school duties other than those directly related to teaching a class.
TLU=Teaching load units.

Examples of how the formula may be employed are as follows:

[21] *Supra*, p. 2.

EXAMPLE 1

One 3-hr. class in Language Arts—20 students
One 3-hr. duplicate section in Language Arts —18 students
One 3-hr. class in Social Science—25 students
One high school section in World History—10th Grade—28 students
One high school section in 12th Grade English —31 students

Class period length for junior college, 50 minutes; for high school, 55 minutes.

$$\text{TLU} = -1\left[1.6\left(6-\frac{3}{5}\right)+\frac{114-108}{100}+\frac{50+50}{100}\right]=9.70$$

$$\text{TLU} = .84\left[1.6\left(3-\frac{0}{5}\right)+\frac{75-54}{100}+\frac{50+50}{100}\right]=5.04$$

$$\text{TLU} = 1.1^{*}\left[5-\frac{0}{10}+\frac{140-125}{100}+\frac{55+50}{100}\right]+0=6.82$$

$$\text{TLU} = 1.1^{*}\left[5-\frac{0}{10}+\frac{155-125}{100}+\frac{55+50}{100}\right]+0=6.98$$

Number of Teaching Load Units 28.5

* Subject coefficients for high school level instruction are: 1.1 for English, science and history and other social sciences; 1.0 for foreign language, household arts, commercial skill subjects, art and mathematics; and .9 for shop subjects, music and physical education. (See Douglass, *op. cit.*, p. 66).

EXAMPLE 2

One 5-hr. class Biology—30 students—junior college
One 5-hr. class Zoology—15 students—junior college
One 3-hr. class Chemistry—20 students—junior college
One 3-hr. duplicate class Chemistry—17 students—junior college
One 3-hr. class Astronomy—20 students—junior college

$$\text{TLU} = .70\left[1.6\left(19-\frac{3}{5}\right)+\frac{396-342}{100}+\frac{50+50}{100}\right]=21.7$$

To apply a formula requires that a school official have available the complete schedule of work assignments for each individual teacher. Its application requires only a few minutes time andeighth grade level of mathematical ability. The advantages accruing from its use in enabling proper consideration for the major factors influencing load, including variations among subject field requirements, which methods based on number of semester hours or student hours do not account for would seem to outweigh criticisms of the few additional minutes necessary for the administrator who is seriously concerned about equalizing faculty loads. Further study is needed as a basis for deriving *grade level* subject coefficients which will reflect differences in teaching load due to variation of requirements imposed by different subjects within a given subject field. Perhaps administrators will discover use of the formulae proposed here to be of immediate practical value in wrestling with this factor in personnel administration.

Analysis of Criticisms of Junior College Teachers by University and Senior College Staffs

BILL G. RAINEY

JUNIOR COLLEGE teachers are frequently the target of criticism by university personnel who feel that these teachers lack the qualifications necessary for efficient teaching at the freshman and sophomore level and who regard the junior college as an unwanted stepson of higher education. The most common criticisms leveled by the critics are that junior college teachers do not: (1) engage in research, (2) write sufficient articles, books, monographs, etc., (3) have enough training in their fields, (6) have practical experience in those fields in which they instruct, (7) belong to or participate in professional societies, (8) have the proper background for college teaching (i.e., have too many years as public school teachers before entering college teaching and use high school methods in college teaching), (9) have the depth of experience in college teaching necessary to do an effective job, (10) maintain high standards, (11) continue their professional growth.

Most college professors are rated by the following criteria:

1. publications
2. research
3. advanced degrees
4. experience (teaching and practical)
5. membership and participation in professional organizations
6. continued study toward advanced degrees

Effective classroom procedures are sometimes considered also. Everyone is not in general agreement as to whether or not research, writing ability, advanced degrees, membership in and attendance at professional organizations, etc. actually improve teaching ability in the classroom, and it is not the writer's intention to argue the point here. Suffice it to say that these have always been the criteria by which college teachers have been judged, and senior college personnel have not seen fit to judge junior college faculty members in any other way.

In an attempt to discover if there really is a vast difference in the qualifications of junior and senior college teachers, the writer made a survey during 1958–59 of the professional requisites of accounting teachers in all the colleges in Oklahoma.

From the survey the following data were gathered concerning the criticisms of junior college teachers listed at the beginning of this article:

(1) *Junior college teachers do not engage in research.* This is definitely true. No research is being carried on by junior college accounting teachers; however, only nine per cent of senior college per-

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Highest Degree Held and Percent Holding This Degree

Degree	Senior College Teachers	Junior College Teachers
Bachelor's	19 %	23.4%
Master's	67.2%	76.6%
Doctor's	13.8%	0.0%

Number of C.P.A. Certificates Held

Senior College Teachers: 26	Junior College Teachers: 1

Semester Hours of Accounting Credit Held by Teachers

	Total Teachers	Total Semester Hours	Average*
Senior Colleges	56	2256	40
Junior Colleges	15	305	20

* Average per teacher, rounded to nearest whole number.

Teachers Working Toward an Advanced Degree

			Type of Degree Sought		
	Total Seeking Advanced Degree	Percent of Total	1st Master's	2nd Master's	Doctor's
Senior Colleges	19	34	4	2	13
Junior Colleges	6	40	2	1	3

Teaching Experience by Years

Average Teaching Experience in:	Senior College Teachers	Junior College Teachers
Public Elementary or Junior High School	1.00	1.30
Business College	.11	.05
Public Secondary	2.40	7.40
Private Secondary	0.00	.75
College or University	11.20	9.95
Total Average Years of Teaching Experience	14.71	19.45

Practical Experience of Accounting Teachers

Number of Months of Practical Experience:	Percent of Senior College Teachers	Percent of Junior College Teachers
In Public Accounting		
0	39	53
1–12	9	7
12–24	5	13
Over 24	47	27
In Private Accounting		
0	28	34
1–12	13	13
12–24	17	13
Over 24	42	40

Research Projects Currently Being Conducted

	Number of Teachers Conducting Research	Percent of Total to Nearest Whole
Senior Colleges	5	9
Junior Colleges	0	0

Membership in Professional Organizations

Organization	Percent of Senior College Teachers	Percent of Junior College Teachers
American Accounting Association	35	11
American Institute of C.P.A.	39.5	10.5
Others	40	78

Professional Journals Read

	Percent of Teachers Subscribing	
Name of Journal	Senior Colleges	Junior Colleges
The Accounting Review	62	27
Journal of Accountancy	75	36
Oklahoma C.P.A. Bulletin	29	10
The Internal Auditor	3	0
Others	31	100

Authorship of Books and Articles

	No. of Books Written by Faculty (Acting)	Average Per Teacher	No. of Articles Written by Faculty (Acting)	Average Per Teacher
Senior Colleges	3	.05	25	.44
Junior Colleges	0	.00	3	.20

Basis for Semester Grades in Elementary Accounting I and II

Item	Average Percent Assigned to Each Item in Determining Grades	
	Senior Colleges	Junior Colleges
Home Work	5	4
Laboratory Work	7	8
Practice Sets	6	10
Class Participation	4	8
Daily Quizzes	0	4
Hour Test	48	40
Final Exam	29	23
Other Factors	1	3
	100	100

Distribution of Grades in Elementary Accounting I and II

	Grade and Percent of Students of Each Type of College Receiving This Grade, to Nearest Whole Percent					
	A	B	C	D	W, I	F
Senior Colleges	13	22	43	13	2	7
Junior Colleges	13	20	47	12	3	6

sonnel were conducting research at the time of this survey.

(2) *Junior college teachers do not write sufficient articles, books, monographs, etc.* Junior college accounting teachers have written no textbooks and only three articles for an average of .02 per teacher. The senior college average for books was .05 per teacher and .44 per teacher in regard to articles. Neither group can do much boasting here!

(3) *Junior college teachers do not have sufficient training in their field.* Junior college teachers have an average of 20 semester hours in accounting subjects, while senior college teachers have an average of 40. Twenty hours seem to be sufficient for teaching elementary accounting, which is all that is offered in Oklahoma's junior colleges.

(4) *Junior college teachers do not secure advanced degrees.* Seventy-six and six-tenths per cent of junior college accounting teachers hold a master's degree, 20 per cent are in the process of obtaining a master's degree and 20 per cent are working toward a doctor's degree.

(5) *Junior college teachers do not read and study enough in their fields.* Although junior college accounting teachers read the two leading accounting journals, *The Accounting Review* and *Journal of Accountancy*, about half as often as senior college teachers, they surpass the latter with regard to various other journals. This is understandable since the instructor

in junior college accounting also teaches other business subjects.

(6) *Junior college teachers do not have practical experience in those fields in which they instruct.* This is not true for the majority. Only 34 per cent have neither public nor private accounting practice. It may be noted that 28 per cent of senior college accounting teachers have no private accounting practice and 39 per cent have no public accounting practice, although they teach more advanced accounting than junior college teachers.

(7) *Junior college teachers do not belong to or participate in professional societies.* Again this is true of the two principal accounting organizations. Membership is only about half of what it is for senior college teachers. However, membership in other professional organizations averages about twice that of senior college accounting teachers.

(8) *Junior college teachers have spent too many years as public school teachers before entering college teaching.* Junior college accounting teachers have taught, on the average, five years longer than the senior college teachers and have about two years less experience at the college level. There is no reason to believe that their teaching is in any way different from that of the senior college teacher or that methods developed in high school, if they have been carried over into college, are inferior to those originating in college by beginning instructors.

(9) *Junior college teachers lack the depth of experience in college teaching necessary to do an effective job.* On the average, junior college accounting teachers have taught just under ten years at the college level, which would seem to be sufficient "depth," esepecially since the average for senior college teachers of accounting is only 11.2 years.

(10) *Junior college teachers do not maintain high standards.* It is not easy to determine which group has higher standards, but the two tables presented here relative to grades indicate there is not much difference in the two types of colleges insofar as basis and distribution of grades are concerned. Percentagewise, there are about as many failures in the junior college as in the senior college.

Accounting is only a very small segment of a college curriculum and one cannot draw conclusions based on a survey of it relative to junior college teaching in general; however, the writer feels that the following statements are warranted:

1. Instructors in junior college are well qualified to teach, although their training in a particular subject matter field may be less than that of senior college teachers.
2. Writing and research should be encouraged in the belief that it will improve the teaching, morale and prestige of junior college teachers.
3. Participation and membership in professional organizations are equal to senior college teachers', but are not concentrated in a narrow field of interest.
4. The standards of junior college teachers are equal to those of senior college teachers.
5. Junior college teachers generally have sufficient practical experience in the areas in which they instruct.
6. A majority of junior college teachers read a sufficient number of professional journals.
7. Junior college teachers generally have sufficient depth of experience in college teaching.
8. More junior college teachers should continue their professional growth by working toward the doctoral degree.

Analysis of Medical Secretarial Survey

RUTH W. TOWLE

ROCHESTER Junior College conducted a medical secretarial survey in June, 1958, to discover if any change or improvement in the college's medical secretarial curriculum were needed since the last survey had been made in March, 1953. Questionnaires were sent to 77 graduates who had taken the course of study from 1952 through 1958, and only five persons did not return the questionnaire.

The directions indicated that the secretary should check her duties—double checking more important duties, single checking others. Following is a compilation of total checks given to each duty, performance, or recommendation. In view of the fact that hospital and clinic medical secretaries do not perform any laboratory duties, the fourth page of the questionnaire was intended only for secretaries working for private doctors, none of whom participated in laboratory duties since doctors in larger communities use hospital facilities where there are trained laboratory technicians. Most of Rochester's graduates locate in large cities and therefore are not required to perform as many laboratory duties as would be necessary in smaller communities.

The widely scattered area in which graduates branch out immediately or soon after graduation is interesting to note. The medical secretarial course was introduced in 1927 for the primary purpose of training secretaries for the Mayo Clinic, although some graduates took positions in hospitals and in others clinics. For the past seven years 42 per cent of the graduates have worked full-time at the Mayo Clinic and five per cent as summer sustitutes.

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SUMMARIZATION OF THE MOST IMPORTANT OFFICE DUTIES OF THE MEDICAL SECRETARIES

Transcription. Of the material dictated and transcribed, letters of technical summaries of medical findings ranked first; case histories and notes and personal letters for the doctor, relating principally to medical and professional associations, next; medical manuscripts for publication and reports on research, followed.

Office Machines. The transcribing machine far outranked the operation of any other office machine except the typewriter. Thirty-one per cent of those replying used electric typewriters. The transcribing machines named with the number using each were Gray's Audiograph (20); Dictaphone (12); Ediphone (8); Stenorette (Dejur) (4); Permoflux Scribe (2); A. B. Dick (1); and tape recorders (2).

Manuscript Writing. Regarding the performance of duties connected with

ROCHESTER JUNIOR COLLEGE

Medical Secretarial Department

Name ..... Mrs. .....
maiden name married name

Address .....
street city state

Year of graduation 19..... Period of employment
Years attended RJC 19.....–19..... as medical secretary ..... years

Places of employment—name of clinic, hospital or private physician:

	Name	*Address*	*Branch of Medicine*
1.			
2.			
3.			

Number of years employed in 1. ..... 2. ..... 3. .....

Part I. Office Duties

Check duties you perform—double check more important duties; single check others.

1. I take dictation and transcribe:
   - 92 a. Letters (technical summaries of medical findings)
   - 74 b. Case histories and notes
   - 76 c. Personal letters for the doctor (medical and professional associations)
   - 52 d. Medical manuscripts for publication
   - 42 e. Reports on research
   - 36 f. Speeches
   - 20 g. Autopsies
   - 18 h. Proceedings of staff meetings
   - 32 i. Minutes of meetings
   - 28 j. Others .....

2. I operate the following office machines:
   - 78 a. Typewriter—51 standard, 24 electric
   - 58 b. Transcribing machine—name .....
   - 12 c. Chemical duplicator
   - 20 d. Stencil duplicator
   - 13 e. Others .....

3. I perform the following duties connected with manuscript writing:
   - 44 a. Typing correctly in a prescribed form
   - 39 b. Preparing tables and charts of medical data
   - 17 c. Checking bibliographies
   - 17 d. Finding material in the medical library
   - 4 e. Others .....

4. I file according to the following systems:
   - 56 a. Alphabetic
   - 34 b. Subject
   - 26 c. Numeric
   - 5 d. Geographic
   - 11 e. Chronologic
   - 2 f. Others .....

5. I file:
   - 50 a. Professional letters (societies, association, etc.)
   - 31 b. Case reports
   - 37 c. Reprints of published papers
   - 33 d. Committee reports
   - 29 e. Research data
   - 26 f. X-rays and slides
   - 5 g. Histologic sections
   - 15 h. Medical references
   - 18 i. Others .....

6. I perform routine office duties, as:
   - 73 a. Answering the telephone
   - 50 b. Keeping appointment calendar
   - 54 c. Opening and sorting mail
   - 25 d. Recording conversations by telephone
   - 40 e. Ordering medical, laboratory, or office supplies
   - 8 f. Others .....

7. I keep bookkeeping records, as:
   - 15 a. Check book
   - 8 b. Combined cash journal
   - 15 c. Daily service record (patients' accounts)
   - 9 d. Payroll records
   - 15 e. Monthly statements
   - 6 f. Others .....

8. I compose letters, as:
   - 51 a. Appointments
   - 36 b. Acknowledgments
   - 27 c. Invitations and acceptances or regrets
   - 14 d. Collections
   - 42 e. Answers to letters received during doctor's absence
   - 30 f. Insurance (health and accident)
   - 17 g. Laboratory findings
   - 18 h. Film loans
   - 4. i. Others .....

9. I type: (in addition to letters and/or manuscripts)
   - 18 a. Itineraries
   - 27 b. Abstracts of case histories
   - 37 c. Patients' history records (on printed lined sheets)
   - 37 d. Insurance forms
   - 30 e. X-ray reports
   - 29 f. Pathological data
   - 10. g. Others .....

10. I work as: Stenographer
    - 63 a. Secretary
    - 4 b. Assistant secretary
    - 10 c. Receptionist
    - 5 d. Medical assistant

Part II. Profesional Qualifications

Double check more important training; single check others.

1. I recommend that a secretary study as a foundation for her understanding of and interest in her position:
   - 100 a. Anatomy
   - 9 b. Botany
   - 21 c. Zoology
   - 101 d. Medical terminology
   - 36 e. Laboratory techniques
   - 53 f. Psychology
   - 19 g. Sociology
   - 40 h. First Aid and other health courses
   - 25 i. Chemistry
   - 9 j. Others .....

2. I recommend the following courses for a medical secretary as a background for a broad and useful life:
   - 68 a. Current Affairs
   - 31 b. Government
   - 22 c. History
   - 16 d. Economics
   - 53 e. Literature
   - 24 f. Music
   - 55 g. Languages
   - 2 h. Others .....

3. I recommend concentration in English on:
   - 97 a. Spelling
   - 86 b. Grammar
   - 84 c. Vocabulary
   - 33 d. Speech
   - 56 e. Composition
   - 24 f. Training in reading
   - 67 g. Composing letters
   - 5 h. Others .....

Part III. Salary (confidential for statistical purposes):

1. Beginning salary ..... Present salary ..... (per month)
2. If employed in more than one place, state salaries for each:

   Monthly salary Name of place

   a. .....
   b. .....
   c. .....

Part IV. Specialized Techniques

I make the following blood tests:

- 2 a. Hemoglobins (name test used)
- 1 b. Counts
- c. Smears (name test used)

d. Chemistries
1 e. Typing
1 f. Others .....

2. I do the following tests:
4 a. Urinalysis
1 b. Others .....

3. I use the following techniques:
3 a. Electrocardiographic
5 b. X-ray
3 c. Basal Metabolism
3 d. Others .....

4. I act as assistant in the following duties:
6 a. Draping patients
7 b. Sterilizing instruments, gloves, etc.
2 c. Taking blood pressure
1 d. Others .....

Part V. Remarks:

I suggest the following improvements in the medical secretarial course at Rochester Junior College: .....

manuscript writing, typing correctly in a prescribed form ranked first and preparing tables and charts of medical data, second, as the two are interrelated. Finding material in the medical library and checking bibliographies had close ranking as third.

Filing. Alphabetic filing ranked foremost, with subject and numeric following, and chronologic and geographic last.

Subject Matter Filed. Professional letters concerning societies and associations of which the physician is a member or officer constituted the greatest amount of material filed. Reprints of published papers, committee reports, case reports, research data, and x-ray reports were more frequently checked in the order given.

Routine. All the routine office duties listed ranked high in performance, with answering the telephone outranking others in the following order: opening and sorting mail; keeping appointment calendars; ordering medical, laboratory, or office supplies; and recording conversations by telephone.

Bookkeeping Records. The findings on bookkeeping records are comparatively the same as in the 1953 survey, the results of which indicated the need for a short intensive course in bookkeeping for the medical secretary.

Routine Letters. It is evident that the medical secretary is called upon to compose a variety of routine letters.

SUMMARIZATION OF SUBJECTS DEEMED NECESSARY FOR PROFESSIONAL QUALIFICATIONS

Basic Studies. In addition to the skill subjects, anatomy and medical terminology were considered the most important basic studies for a trained medical secretary. Psychology had median ranking with health courses and laboratory technique somewhat below median.

General Education. Evidently the graduates' appreciation for general education increases with the years after graduation in their endeavors to lead a "broad and useful life."

English. Spelling, grammar, and vocabulary ranked highest in recommended concentration in English, with letter writing and composition next, and speech and training in reading following.

SUMMARIZATION OF SPECIALIZED TECHNIQUES

Of the specialized techniques, sterilizing instruments, gloves, etc.; preparing patients for examinations; administering x-rays and electrocardiograms; testing urinalyses and basal metabolism; taking blood pressure and hemoglobins ranked in the order given.

The graduates listed such a variety of duties under the item, *Others,* that a summarization would not be complete without noting these performances.

Under "Office Duties," Part I

1. Dictation and transcription duties *other* than those listed on the questionnaire were reported as follows:
   - Reports—
     - X-ray, electrocardiogram, and surgery reports
     - Surgical and pathological findings (gross and microscopic findings and diagnoses on pathological specimens) (Above two items mentioned more often)
   - Medical writing—
     - Abstracts for seminars
     - Criticisms on theses to be published
     - Book reviews
     - Books for publication
   - Miscellaneous
     - Memoranda
     - Answer *all* Christmas cards
     - Research grant applications
     - Legal liability examinations
     - Letters and memos re administrative policies
     - Telephone dictation
2. *Other* office machines operated:
   - Adding machine (5)*
   - Thermo-Fax (copy machine) (4)
   - Addressograph (used for statements) (3)
   - Duplicators—Verifax, Ozalid, Copease (4)
   - Photostat
   - Calculator
   - Pitney-Bowes mailing machine
3. *Other* duties connected with manuscript writing:
   - Proofreading finished proofs
   - Placement of sketches and art work
   - Setting up the index of one book revised
5. *Other* subject matter filed:
   - Laboratory reports—blood, urinalyses, etc.
   - Pathological diagnoses
   - Surgical reports and data cards
   - X-ray reports
   - Electrocardiograms
   - Autopsy reports
   - Bibliographies and biographies
   - Abstracts for seminars
   - Lectures
   - Diagnoses for charts for research
   - Data on drugs, inquiries, meetings
   - Addresses of associates, friends, business
   - Personal letters
   - Confidential correspondence
   - Medical administrative policies
   - Credit correspondence
   - Paid bills
   - Financial records
   - Insurance forms
   - Books (private library of 2,000 books and journals)
6. *Other* routine office duties:
   - Charting histories, physicals, surgicals, consultations, and laboratory reports on patients' charts, and mailing duplicates to doctors
   - Scheduling surgery at hospitals and advising patients
   - Scoring psychological tests

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* Number of times mentioned.

X-rays—ordering, delivering to operating room, recording and returning
Executive health plan calls and correspondence, plus charges
Ordering reprints, books, magazines

7. *Other* bookkeeping records:
Employees income tax forms
Daily hospital census

8. *Other* letters composed:
Concerning certain regular meetings
Surgical
Summaries of cases
Reprint requests
Industrial Commission appointments and court hearings
Operative records for surgeon during his vacation

9. *Other* typewriting:
Consultations
Surgical procedures and surgical dismissal notes
Appointment cards
Intra-clinical forms such as appointment cards, requests for blood tests, x-rays, etc.; reportable case cards; interesting case cards
Information on forms in regard to appointments; calling histories, x-rays; registering papers to be written
Electrocardiograms, phonocardiograms, cardiac catheterization reports and pulmonary function test reports
Monthly statements
Annual reports
Schedules for each quarter
Telegrams
Administrative policies
Personal club activities

10. *Other* positions held:
Stenographer
Surgical recorder
Medical record librarian

Under "Professional Qualifications," Part II

1. *Other* subjects recommended that a secretary study as a foundation for her understanding of and interest in her position:
Bookkeeping
Business English
Business machines
Dictaphone
English composition
Foreign language
Physics

2. *Other* subjects recommended as a background for a broad and useful life:
Geography
Marriage and the Family
Psychology

3. *Other* recommendations for concentration in English:
Punctuation (4)

Number of responses from each class with deviations from following the career of medical secretary only.

Class of 1952
100 per cent answered
1 worked as a medical secretary 5 years, then transferred to the University of Minnesota to study education
2 married soon after graduation, did not work
3 worked as medical secretaries after marriage

Class of 1953
100 per cent answered
1, after working 5 years, training in Medical Technology at Swedish Hospital, Minneapolis
2 worked as medical secretaries after marriage

Class of 1954
3 unanswered: one of whom works for lawyers in Hawaii; one, a surgical recorder at St. Mary's Hospital, Rochester, the other, a medical secretary at the University of Chicago
1 transferred to the University of Minnesota to study education, working part time as a medical secretary; now teaching in California
1 married soon after graduation, did not work
6 worked as medical secretaries after marriage

Class of 1955
100 per cent answered: All worked as medical secretaries

Class of 1956
100 per cent answered: All worked as medical secretaries

Class of 1957
1 unanswered: working as a medical secretary at Quain & Ramstad Clinic, Bismarck, North Dakota
1 married soon after graduation, did not work

Class of 1958
1 unanswered: working at Newman & Kraft, photographers in Rochester

States and cities in which these graduates have worked, or are working, listing the names of the hospitals or clinics; colleges of medicine; medical departments of industry; or, in the case of a specialist, the branch of medicine practiced:

Alaska, Anchorage—Alaska Native Hospital
California, Huntington Park—orthopedics
Palo Alto—Palo Alto Medical Clinic
San Francisco—neurosurgery
St. Mary's Hospital
Stanford University Hospital
Santa Barbara—General Hospital
Cottage Hospital
Colorado, Colorado Springs — Colorado Springs Medical Center
Dermatology
Pathology
Glockner-Penrose Hospital
Denver—St. Anthony Hospital
St. Joseph's Hospital
All branches and surgery
Connecticut, Hartford—St. Francis Hospital
Hawaii, Honolulu—Straub Clinic
Illinois, Chicago — University of Chicago, ophthalmology
Evergreen Park—Little Company of Mary Hospital
Moline—Deere & Company (Medical Department)
Indiana, Lafayette—gynecology and obstetrics
Lafayette Home Hospital
St. Elizabeth's Hospital
Kentucky, Lexington—general surgeon
Louisville—obstetrics and gynecology
University of Louisville, anesthesiology
Lynch—Lynch Medical Group
Minnesota, Austin—St. Olaf Hospital
Mankato—Mankato Clinic
Minneapolis—Elizabeth Kenny Institute
Minneapolis Neuropsychiatric Clinic
St. Barnabas Hospital
St. Mary's Hospital
University Hospital—School of Public Health
University of Minnesota
Variety Club Heart Hospital
Allergy
Dermatology and Allergy
Ear, Nose and Throat
Orthopedic Surgery
Rochester—American Academy of Ophthalmology and Otolaryngology
Mayo Clinic
Olmsted Community Hospital
St. Paul—Northern Pacific Beneficial Association
St. Joseph's Hospital
St. Luke's Hospital
Winona—Winona Clinic
Missouri, St. Louis—Orthopedic Surgery
Washington University School of Medicine
Nebraska, Omaha—Methodist Hospital
Nevada, Reno—Stead Air Force Base, Dispensary
New Hampshire, Hanover—Mary Hitchock Memorial Hospital
New York, Poughkeepsie—St. Francis Hospital
Rochester—Genesee Hospital
North Dakota, Bismarck—Quain & Ramstad Clinic
Ohio, Bellaire—Bellaire Clinic
Cincinnati—Neurosurgery
Wisconsin, Eau Claire—Sacred Heart Hospital
Green Bay—Green Bay Clinic
Madison—Veterans Administration Hospital
Dean Clinic

There are 17 states and 34 cities represented.

Locations of positions grouped in the seven categories of hospitals, clinics, medical centers, colleges of medicine, medical departments of industry and insurance companies, private practice, and a medical publisher:

HOSPITALS—
Alaska, Anchorage—Alaska Native Hospital
California, San Francisco — St. Mary's Hospital
Stanford University Hospital

Santa Barbara—Santa Barbara Hospital
—Cottage Hospital
Colorado, Colorado Springs—Glockner—
Penrose Hospital
Denver—St. Anthony Hospital
St. Joseph's Hospital
Connecticut, Hartford—St. Francis Hospital
Illinois, Chicago—University of Chicago, Billings Hospital
Evergreen Park — Little Company of Mary Hospital
Rockford—Rockford Memorial
Indiana, Lafayette—Lafayette Home Hospital (6)
St. Elizabeth's Hospital (3)
Nebraska, Omaha—Methodist Hospital
New Hampshire, Hanover—Mary Hitchcock Hospital
New York, Poughkeepsie—St. Francis Hospital
Rochester—Genesee Hospital
Minnesota, Austin—St. Olaf Hospital
Rochester—Olmstead Community Hospital
Minneapolis—Elizabeth Kenny Institute
St. Barnabas Hospital
University of Minnesota Hospitals (4)
St. Mary's Hospital
Variety Club Heart Hospital
St. Paul—St. Luke's Hospital
St. Joseph's Hospital
Wisconsin, Eau Claire—Sacred Heart Hospital
Madison—Veterans Administration Hospital

CLINICS—

California, Palo Alto—Medical Clinic
Hawaii, Honolulu—Straub (2)
North Dakota, Bismarck—Quain & Ramstad Clinic
Minnesota, Mankato—Mankato Clinic
Minneapolis—Neuropsychiatric Clinic
Montevideo—Montevideo Clinic
Winona—Winona Clinic
Ohio, Bellaire—Bellaire Clinic
Wisconsin, Green Bay—Green Bay Clinic
Madison—Dean Clinic

MEDICAL CENTERS OR GROUPS

Colorado, Colorado Springs Medical Center
Kentucky, Lynch Medical Group

PRIVATE PRACTICE

California, Huntington Park
San Francisco
Colorado, Colorado Springs
Denver
Indiana, Lafayette
Kentucky, Lexington
Louisville
Minnesota, Minneapolis (5)
Missouri, St. Louis
Ohio, Cincinnati

COLLEGES OF MEDICINE—

University of Louisville, Kentucky
University of Minnesota, Minneapolis
Washington University, St. Louis, Missouri

MEDICAL DEPARTMENTS OF INDUSTRY AND INSURANCE COMPANIES—

Deere & Company (Medical Department), Moline, Illinois
Northern Pacific Beneficial Association, St. Paul, Minnesota

Those secretaries located in the above cities and states worked in the following branches of medicine (Mayo Clinic listed separately):

Allergy—2
Cardiology—4
Cardiovascular—2
Dermatology—4
Ear, Nose and Throat—2
Health Education
General Medicine—8
Gastroenterology—4
Hematology
Industrial Health & Hygiene
Internal Medicine—7
Laboratory & Pathology—2
Neurology—2
Neurosurgery—2
Obstetrics & Gynecology—2
Ophthalmology—3
Ophthalmology & Otolaryngology
Orthopedic Surgery—2
Pathology—5
Pediatrics—4
Physical Medicine—2

Plastic Surgery—2
Proctology
Psychiatry—4
Psychology
Physiology
Renopathy
Rheumatology
Social Service
Surgery—12
Surgical Pathology and Physiology
Urology
Veterinary medicine
X-ray—5
All specialties—8
Dispensary USAF
Medical Records—2

Those secretaries replying from the Mayo Clinic worked in the following branches of medicine:

Cardiology
Cardiovascular
Dermatology
Gastroenterology—3
General Medicine—2
Hematology
Infectious Diseases
Internal Medicine—3
Neurosurgery
Ophthalmology—2
Pediatrics
Physical Medicine and Rehabilitation
Physiology
Plastic Surgery
Proctology
Renopathy
Rheumatology (Internal Medicine)
Surgery—3
Surgical Pathology
Urology
Veterinary Medicine
All branches—3 (substitute)
Insurance—(collections)

REVISIONS IN THE COURSE OF STUDY DURING THE PAST FIVE YEARS

As a result of the 1953 survey, several revisions have been made in the medical secretarial curriculum. Because of the increasing use of transcribing machines, a course in Dictaphone for Medical Secretaries was added for the winter quarter, carrying one credit for two hours per week. The cylinders transcribed are recordings of authentic current medical letters dictated by faculty men and the instructor. Also, a course stressing medical terminology was added for the spring quarter—two hours, two credits. Since an increasing number of Rochester graduates have been accepting positions with specialists in various branches of medicine and perform a broader range of duties, a third course, Bookkeeping for the Medical Secretary, was added during the spring quarter—two hours, two credits.

In content of subject matter, more emphasis has been placed on transcription, more extensive terminology on the various branches of medicine, the typing of case history printed and lined forms and tables and graphs, composing and typing abstracts, typing insurance forms, studying of anatomy charts stressing shorthand and spelling, and manuscript typing. English 11, 12, 13, Freshman Composition, was inserted as an alternate English requirement to English 17, 18, 19, Reading Analysis and Composition, for those students entering with a lack of fundamentals. To accommodate students skilled in shorthand and typewriting who might be attracted to a concentrated one-year course, the Medical Secretarial Finishing course was added in 1953–54.

While Rochester's recent graduates locate primarily in hospitals and clinics, there is a trend toward secretaries accepting positions with private specialists. Not only for the same reason that the bookkeeping course was added, but also for a basic understanding of terminology and the production of mailable tran-

scripts, there is a need for a laboratory technique course.

RECOMMENDATIONS FOR IMPROVEMENTS

The secretaries were very helpful in offering recommendations for improvements in the course of study and in commenting on the instruction which they considered most important. The consensus of opinion was that the course was basically complete and provided an excellent background. A few interesting quotations follow:

> I have realized, after talking with girls trained elsewhere, that we are better equipped to qualify as medical secretaries than most.
>
> It is a fascinating field in which to work, but I would not want to attempt it without previous adequate training.
>
> I am very satisfied with the training which helped me considerably, at the start of the job especially.

Medical Terminology Anatomy Spelling. Most frequently mentioned was the importance of stressing terminology with emphasis on spelling and concentration on anatomy. The foundation study of medical prefixes and suffixes was appreciated and the suggestion that drug terminology be studied as much as possible was indicated. A few secretaries remarked that they did not regret taking botany and zoology but would have preferred a more extensive course in anatomy.

English. Training in the "more practical aspects" of English, particularly grammar, spelling, letter composition, and general vocabulary, were appreciated "on the job."

Shorthand, Typing, Transcription. Speed in shorthand, typing and transcription was deemed essential; practice in taking surgical notes in a standing position, necessary. Contributing to a closer relationship between the anatomy class and terminology class were the analysis and reference to anatomy charts of dictated material.

Neatness and Accuracy. Repeated remarks were made concerning the necessity of neatness and accuracy in all work produced: "Nothing more appreciated than neatness; discouraging to have letters returned; cannot place too much stress on neatness."

Telephone Technique, Personality Traits, Insurance Forms, Abstracts, Filing. A professional tone of voice with assurance and courtesy and the ability to cope with varying situations contributes to ideal office efficiency. Tact and sympathy are noted as foremost personality traits in dealing with patients. There is an increasing number of insurance forms to be filled out—a routine office duty that requires careful consideration because of the legal involvements. Abstracting letters, papers, routine communications, and speeches is another meticulous performance. How to code diseases and operations on medical histories is being encountered by some secretaries as a function of filing. It was proposed that familiarity with examining room equipment might be helpful to those preparing to work for a private specialist.

Bookkeeping. Suggestions for inclusion in bookkeeping were: payroll deduction methods, employers' quarterly tax reports, and methods of collecting bad accounts.

Office Machines. More training was advised in the use of (1) newer transcribing machines, including recordings of actual dictations by doctors so that students realize before they take their first jobs that not everyone talks clearly and dis-

tinctly; (2) duplicating machines; (3) electric typewriters; and (4) other office machines used in medical groups and clinics.

Conclusions. Endeavors will be made at Rochester Junior College to carry out all practical recommendations which have not been instituted previously. Many innovations have been made in the past seven years, as evidenced from the previous pages on "revision," including an additional period of laboratory in anatomy for the one-year finishing students.

This I Tried and Found Helpful

Rebuilding Student Morale

William K. Viertel, State University of New York Agricultural and Technical Institute
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A current problem in college teaching is that of rebuilding the confidence of freshmen who have been in the armed services, or who, for other reasons, have had a lapse of several years in their schooling. This problem becomes acute at the writer's school in physics, which is one of the two biggest stumbling blocks in the industrial curriculums. (The other is mathematics, but physics looms largest because all students take the same course, whereas in mathematics freshmen are grouped according to preparation and ability).

At the beginning of the current academic year, the writer tried a method of restoring confidence and building morale which appears to have been successful. It involved holding a few extra meetings of the physics class after hours, with attendance entirely voluntary. The meetings were short (about half an hour) and were devoted entirely to reviewing past test questions on the physics topics already studied, i.e., having students reason out the solutions starting from basic principles and definitions. This technique of persuading students that they *could* figure out solutions is the key to whatever success the method has had. It became apparent that a freshman did not need to be a genius to pass physics—though it was also apparent that careful reading of a problem, and straight thinking, were necessary.

Merchandising Mathematics in the Junior College Retailing Curriculum

RUTH E. MANGHUE

COMPETENCE in arithmetical computation is a skill high on the list of abilities required of prospective employees by businessmen today. A survey of key merchants in Indiana, for example, indicated they considered business mathematics an important item in the retailing curriculum.[1]

Since there is a paucity of material available on teaching business mathematics to retailers, it became evident that a research study would be necessary to secure information to be used as a basis for evaluating the retailing curriculum at Lasell Junior College.

Twenty-nine private junior colleges from 17 states were chosen as a sample of the two-year institutions offering retailing curriculums. Sixteen (55%) of the questionnaires sent to these colleges were completed and returned; in addition, seven other schools wrote letters describing their courses but did not complete the questionnaires, bringing the total return to 23 (79%).

The questionnnaire attempted to discover what courses in the mathematical field were offered to retailing students, when they were offered, and what credit was earned for such courses. The area of mathematics was explored to determine at what point certain principles were taught. Several questions were concerned with the person responsible for teaching the retailing mathematics course—his background and training and the department of the college in which he currently taught. Information was also sought concerning the type of text and other materials used.

A tabulation of the results of the questionnaire indicated that business arithmetic is offered in 11 of the colleges, in seven colleges as a required course and in four as an elective. It is offered by nine colleges as a freshman or first-year subject, and in the other two colleges it may be taken either year. The clock and credit hours apportioned to business arithmetic are as follows:

Number of Colleges	Class Periods Per Week	Semester Hours of Credit
2	2	2
9	3	3

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[1] According to Doris E. Willis in "Levels and Competencies in Distribution," *Curriculum Patterns in Business Education,* American Business Education Yearbook, 1956, Vol. XIII, p. 146, units of work necessary to the education of future sales personnel ranked in order of importance are: 1. salesmanship, 2. personality development, 3. human relations, 4. merchandise information, 5. business mathematics.

No prerequisite was reported for business arithmetic in the colleges under consideration. It is taught in separate sections in only two schools, while in nine colleges the retailing students are enrolled in the course with students from other curriculums.

Only four of the 16 colleges offered a course in finance; one listed it as a required course, and in three it is offered as an elective. Finance is offered as a first-year course in only one college, a second-year course in one college, and in the other two it may be taken either year. In all four colleges the course meets three hours per week, carries three semester hours of credit, and may be taken by students from all curriculums. Two colleges reported no prerequisites for the course, one requires that it be preceded by a course in business arithmetic, and another requires a course in accounting as a prerequisite.

Economics is offered in 11 of the schools surveyed, with five listing it as a first-year subject and six as a second-year subject. Semester hours of credit given for the economics course are:

Number of Colleges	Semester Hours of Credit
9	3
1	6
1	2

In ten colleges the course meets three hours per week, and in one school, two hours a week. Of the eleven schools reporting on this subject, one organizes separate classes for retailing students, while the other ten do not make this separation. Nine of the colleges list no prerequisites, one school requires a preliminary course in business arithmetic, and one requires second-year status of economics students.

Of the 16 colleges reporting on retail mathematics, nine offer a course under the title, Retail Mathematics; it is a required course in eight of these colleges, an elective in one. The course is offered in the first year in two colleges, in the second year in six colleges and in one college it may be taken either year. The range of semester hours of credit and class hours is as follows:

Number of Colleges	Semester Hours of Credit	Class Periods Per Week
1	1	1
2	2	2
5	3	3

In eight colleges this course is offered only to retailing students in separate class groups, and in one college students enrolled in other curriculums may take it. Five colleges require no preliminary work for students enrolling in retailing mathematics, while two require courses in business arithmetic; one, a course in retailing; and one, a course in marketing.

Fourteen colleges offer a course in salesmanship. Of this number, 12 schools require all retailing students to take the course and two allow it to remain on an elective basis. In eight of the colleges it is a first-year course, in two, a second-year course, and in four it may be taken either year. In only one college does salesmanship carry one credit and meet once a week. In two colleges it is a two-hour, two-credit course; eleven schools list it as a three-hour, three-credit course. In eight institutions salesmanship is taught as a separate course for retailing students only, while in six anyone in the college may take it. Only one of the 14 colleges offering this

TABLE I

Courses in Which Principles of Mathematics Are Taught in Reporting Junior Colleges

Principles of Mathematics	Bus. Arith.	Retail Math.	Basic Math.	Store Organ.	Account-ing	Sales	Principle of Retail.	Business Machines
Whole Numbers	10	1	1	..	1	..	1	1
Fractions & Decimals	10	2	2	..	..	..	2	..
Percentage	10	2	1	..	1	..	1	..
Elements of Profit	7	5	..	1	5	..	..	..
Mark-up and downs	5	6	..	1	..	1	3	..
Inventory Meth.	3	5	..	1	2	1	3	..
Planning Stock	..	6	..	1	..	1	3	..
Expense Analysis	..	6	..	1	3	1	2	..
Discounts	7	5	..	2	2	1	1	..

TABLE II

Courses in Which Principles of Retailing Are Taught in Reporting Junior Colleges

Principles	Taught in a General Mdse. Course Only	Taught in a Math. Course Only	Taught in Both Mdse. and Math. Courses	Not Taught in Any Course
How to figure basic profit elements	2	4	7	..
How to analyze the P. and L. statement	3	4	5	1
How to determine mark-up	4	4	5	..
How to average mark-up	4	4	5	..
How to plan mark-up and retail price	4	2	6	1
How to establish pricing policies	8	..	4	1
How to set price lines	8	..	4	1
How to control mark-downs	8	..	3	1
How to take inventory	7	3	2	1
How to determine and control stock shortages	6	..	4	3
How to value inventory by the cost method	6	3	3	1
How to value inventory by the retail method	7	3	3	..
How to evaluate the retail method of inventory	6	3	2	2
How to measure stock-turn	6	3	3	1
How to increase stock-turn	6	1	3	3
How to analyze dollar sales and stock records	6	1	3	3
How to plan stock in dollars	6	1	3	3
How to plan purchases and open-to-buy	6	..	4	3
How to plan model stocks	6	..	4	3
How to plan unit recorder quantities	7	..	3	3

course lists a prerequisite (a preliminary course in marketing) for it.

Of ten colleges offering a course in accounting, only four consider it essential for retailing students (or majors), while the others list it as an elective subject. Five colleges offer accounting as a first-year course, one, as a second-year course, and in four colleges retailing majors may take it either year. The hours and credit for the course are as follows: four colleges —three credits, three hours; four colleges —six credits, six hours; two colleges— four or five credits and hours. Nine colleges permit students from all curriculums to take the course, and one has a special accounting class for retailing students alone. There is no prerequisite listed for the course in seven colleges, while three require that business arithmetic be taken as a prerequisite.

In the second item on the questionnaire, colleges were asked to state in which course specified principles of mathematics were taught. The reports are shown in Table I.

The colleges were asked to state whether a specified list of principles of retailing were taught in a general merchandise course only, strictly in a mathematics course, in both merchandise and mathematics courses, or not taught at all in the retailing curriculum. Only 13 of the 16 reporting colleges answered this question. Table II shows the number of reporting colleges in each of the four classifications. Many of the principles are repeated in both merchandising and mathematics courses.

Four colleges reported that the retailing instructor teaches all of the mathematics courses. Two regular mathematics instructors were listed as responsible for the teaching of mathematics to retailing students. In four colleges an instructor from the business administration department teaches the mathematics courses to the retailing students. In one instance, a dean teaches mathematics to the retailers.

From the questionnaires, it is apparent that the mathematics teachers have varied backgrounds. Below are listed their areas of specialization (two colleges did not answer this question):

Area of Specialization	Number of Instructors
Retailing	5
Business Education	1
Distributive Education	1
Mathematics	2
Personnel	1
Secretarial Science	1
Economics	1
Business Administration	2

The next question concerned the textbooks that are in general use in the courses in retailing mathematics. They are listed below in order of preference:

Author	Publisher	Title	No. of Col.
Wingate, Schaller & Goldenthal	Prentice-Hall	*Problems in Retail Merchandising*	5
Chambers, Irene M.	National Retail Merchants Assoc.	*Merchandising Arithmetic for Retail Training*	2
Committee on Retailing	Pitman Pub. Co.	*Principles of Retailing*	2

Rice, Boyd & Mayne	South-Western	*Business Math. for Colleges* (3rd ed.)	2
Wingate, John W.	Prentice-Hall	*Buying for Retail Stores*	2
Wingate & Schaller	Prentice-Hall	*Techniques of Retail Merchandising*	2
Carpenter	.....	*Putting Arithmetic to Work*	1
Egmore, Frederic A.	U. of Pittsburgh	*Mathematics of Merchandising*	1
Lowenstein, Lloyd L.	Wiley	*Mathematics in Business*	1
McGregor, G. H.	Irwin	*Retail Management Problems*	1
N.R.D.G.A.	N.R.D.G.A.	*The Buyers Manual*	1
N.R.M.A.	N.R.M.A.	*Merchandising Arithmetic*	1
Noble & Niswonger	South-Western	*Accounting Principles* (7th ed.)	1
Richtmeyer & Foust	McGraw-Hill	*Business Mathematics*	1
Snyder, Llewellyn	McGraw-Hill	*Elements of Business Math.*	1
Snyder, Llewellyn	McGraw-Hill	*Essential Business Mathematics*	1

Other items found to be helpful in teaching retailing mathematics at the junior college level are:

Books:

Corbman—*Mathematics of Retail Merchandising*
Duncan & Phillips—*Retailing Principles & Methods*
Laville—*Selected Case Problems in Retailing*
McNair—*Case Studies*
Robinson & Robinson—*Successful Retail Salesmanship*
Wingate—*Buying for Retail Stores*

Bulletins:

Women's Wear Daily
N.R.D.G.A. Bulletins
Controller Congress Reports
Stores Training Manuals

Others:

Retail Employment, Case Records and Outside Lecturers.

SUMMARY OF FINDINGS

The first and most obvious conclusion of this study is that there is very little consistency in the teaching of arithmetical skills to junior college retailing students. Of the six subjects areas that were investigated, the courses most often required of retailing students were: salesmanship, economics and retailing mathematics. Accounting and business arithmetic are given strong consideration as elective subjects in planning a retailing curriculum, but the subject of finance holds little significance in the training of a retailing student at this level.

It appears that the fundamental arithmetic skills are being taught in subject areas that are not specifically in the retailing field. In other words, the retailing arithmetic skills are not so different from the general computational skills needed by

business workers in other fields; therefore, it would seem that retailing students can be enrolled in mathematics classes with students from other business curriculums.

According to the findings of this survey, the colleges queried prefer to offer business arithmetic and salesmanship in the freshman year, economics and retailing mathematics in the second year. Apparently there is little consistency of opinion as to where to offer the accounting and finance courses.

It was the consensus that all of these subjects should meet three class hours per week for three semester hours of credit. Except for the subjects of salesmanship and retail mathematics, all of the other subjects should be taught to classes composed of students from all curriculums. In general, no prerequisites were listed for the subjects investigated.

Principles of retailing are taught in a general merchandise course primarily, although there is some evidence that these topics are repeated in mathematics courses as well.

The types of instructors who teach mathematics to retailers and the textbooks and other materials used are so varied that no significant conclusions can be drawn about them.

RECOMMENDATIONS

A comparison study should be made to discover whether or not professional schools of retailing have more definite organization of the content and the place of arithmetic courses in their curriculums than do the junior colleges.

A study should also be made of the publicly-controlled junior college programs concerning the place of arithmetic in the retailing curriculum. The present study involved only privately-owned institutions.

Research should be conducted in the retailing field to determine which arithmetical skills are required of junior college students who are being trained for particular jobs in the retailing field in order to check on the appropriateness of the courses being offered.

A follow-up survey of the recent retailing graduates of the junior colleges under consideration here might be made to discover which skills they are using on the job, what further skills are needed and which ones, if any, could be eliminated from the present programs of these institutions.

The College Teacher as a Communicator

VERNON WANTY

COMMUNICATION is one of the most difficult problems of human life because often people assume they are communicating when they are not. Experiments have shown that one cannot assume a person "knows" a thing simply because it is told to him, nor does showing it to him necessarily mean that he has "seen" it.

It is suggested that a teacher has a greater responsibility to communicate effectively than most other people, and to do this, he should understand the communication process and know the barriers which may prevent his communication from being successful. An examination of the chain of communication shows that it contains four elements: the source, the channel, the message, and the destination. For the teacher, the source, as far as his students are concerned, is himself; the channel is the medium through which he transmits his message; the destination is his class. Faults in any one of these elements can cause "noise" or a blockage in the channel, and they all should receive the teacher's attention to ensure that each one is functioning to its maximum capacity.

First, then, the teacher should examine himself as the source. One fact revealed by communications research is that a source should have credibility for the audience. One might think that the possession of higher degrees of learning by the teacher constitutes source credibility for his students, but a review of representative literature in the field of education suggests that degrees do not necessarily affect a person's ability as a teacher. For example, a young Ph.D. found his education for the higher degree in English to be poor preparation for teaching the lower classmen to whom he was assigned. He said, "Although they taught me a good deal about English literature, they never mentioned the problem of imparting a love or understanding of such literature to freshmen." Nor does a teacher's attempt to build his own status necessarily establish his credibility as a source in the eyes of his students. If a teacher attempts to put himself on a pedestal, he tends to increase the distance and erect additional barriers between himself and his students. This naturally increases the difficulty of communicating effectively.

One way for the teacher to establish his source credibility is for him to obtain a thorough knowledge of the subject he is teaching and learn how to present it in a way that is understandable to his students. Often on the college level it is taken for granted that because a person possesses certain knowledge, he can teach it to others. But it is suggested that a person who knows how as well as what to teach

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will be more successful in "getting through" to his students than one who operates on the idea that "if you know your stuff, you can teach it."

A teacher's source credibility may also be affected by his ability to maintain class discipline. Students are prone to generalize, and where an instructor's inability to keep discipline in class may have no relationship to his knowledge of the subject he is teaching, to some of his students such inability to keep discipline in class may indicate a lack of self-confidence which they interpret as being due to his lack of knowledge. This interpretation would naturally reduce an instructor's source credibility. The importance of an instructor's giving his students cause to have confidence in himself cannot be overestimated. Just as an audience will pay less attention to a speaker once they have tabbed him as untrustworthy, so the motivation of a class to accept what they hear will be lessened if they decide the instructor is unreliable.

In classes where skills are being taught, a teacher can also build source credibility by demonstrating to his students his own ability in those skills. For example, the writer has found in teaching communication skills that students are more likely to take notice of criticism of their writing from an instructor who shows he himself can write, than they are from a person who seemingly knows all the rules but is never able to demonstrate that he can apply them.

The teacher should also examine his attitude toward his students and toward his subject. This is particularly important in teaching elementary subjects to lower classmen. If an instructor feels that teaching freshmen reduces his status, he may convey to them the fact that he regards them as inferior students. Such an attitude will make it difficult for him to establish "empathy" with his students. Similarly, with regard to the subject, if the instructor has the attitude that it is a low-level course unimportant to him, the same attitude may well be reflected by his students toward this subject.

Most of a teacher's communication will be carried on in a face-to-face situation, and therefore he should be aware of the importance of gestural communication. To most people, gestural communication means manipulation of the hands and other visible and movable parts of the body. But as pointed out by Edward Sapir, voice intonation may transmit attitudes and feelings just as much as the clenched fist, the shrugging of the shoulders, the wave of the hand, or the lifting of the eyebrows. It is essential for the communicator to ensure that his gestures do not contradict what he says, as gestural communication has been shown to have great affect on people's perception of the meaning implied in a particular communication.

In accord with the principles of communication, the teacher should have a well-defined set of objectives based on the needs of his students, and this demands that he "know" his students. Without such knowledge the instructor may find his objectives impossible to achieve because his students do not have the necessary background in the fundamentals of the subject being taught. Students can act only in accord with their previous experience, and allowance must be made for their adjustment to the additional pressures of college that they did not have to cope with in high school.

Research in communications has shown

that a person's perception of communication is affected by self-interest. Of significance to the teacher are experiments made with people in industry which have shown that behavior which seems to lead to reward tends to be repeated, whereas that which seems to lead to punishment is usually discontinued. Most teachers know, for example, students react positively to public or private commendation for superior work.

Self-interest is closely allied to a person's needs, and, as many experiments have shown, needs greatly affect perception. That students are no exception in this regard was shown in an experiment with two groups of college students. One group was known to be hungry; the other group had just eaten. Both were asked to identify a number of ambiguous drawings located behind a ground glass screen. The students known to be hungry identified more objects as food than did those who had just eaten. Wilbur Schramm states that "specific perceptual and cognitive organizations with which the individual responds to pictures and words reflect his basic needs."[1] If, therefore, the instructor can show his students in his teaching how they can better meet their needs through what they learn in class, he should find greater response to what he teaches.

In addition to being aware of his own attitudes toward his students and toward the subject he is teaching, the instructor should also observe his students' attitudes toward himself and the subject. If he discovers a negative attitude toward himself, he should not become unduly concerned but should try to find its cause. All attitudes develop from some kind of experience, and although the teacher may not necessarily be able to change his students' attitudes toward himself, knowing how they have developed will help in his student contacts.

In examining the message, the instructor should concern himself with the content and the method of presentation. It is important to resist the temptation to appear as a pedant before students. One teacher boasted of deliberately talking so that not more than ten per cent of his students could understand him, maintaining that by so doing he was "raising the horizons" of his students. But if he were honest, he would probably admit that he was more interested in increasing his own status than in "raising horizons." In preparing how to communicate with his students, an instructor should keep constantly in mind what he should have learned about their needs.

With regard to the method of presentation and the channel used, the course being taught will to a great degree determine these, although the need for clarity and simplicity in presentation should be the chief guiding factor.

Finally, just as the "professional" communicator[2] uses "feedback" to determine the effectiveness of his message and thus improve the method of presentation, so the college teacher will need to subject himself constantly to self-evaluation to ensure that he is achieving his objectives. If he does, it would seem that he could not fail to be more successful as a communicator and as a teacher.

[1] Wilbur Schramm, *The Process and Effects of Mass Communication* (Urbana, Ill.: University of Illinois, 1955), p. 123.

[2] A person who makes a living as a communicator in the world of commerce and industry, e.g. a television announcer or an advertising specialist.

From the Executive Director's Desk

EDMUND J. GLEAZER, JR.

THE American Association of Junior Colleges is planning a convention of more than usual interest to be held at Louisville, Kentucky, March 2–4, 1960. It will be the fortieth anniversary convention of the Association. The theme chosen is "The Junior College, Its Obligations in Higher Education." Of added interest is the fact that the convention will be the first after the announcement by the W. K. Kellogg Foundation of a financial commitment to the Association for the work of its commissions and for establishment of programs in various universities to prepare junior and community college administrators as well as to serve those already carrying administrative responsibilities.

The program will be an honest attempt to consider the basic functions of the junior and community colleges. Some 525 of these institutions make up the membership of the American Association of Junior Colleges. In view of the complex and demanding educational scene, it seemed urgent to the Board of Directors that attention be directed to the particular assignment of junior colleges in the total educational job to be done during the next decade. The phrase "higher education" as used in the theme is meant to be comprehensive. Perhaps it should have been expressed as "post secondary" education. It is meant to include community services, adult or continuing education, as well as technical-terminal offerings in addition to university parallel curriculums.

Speakers at the general sessions will direct themselves to the obligations of teaching, guidance, and community services. These are conceived to be three primary obligations of junior colleges.

The Board of Directors has stated as a matter of policy that every effort will be made in planning convention programs to meet the needs and interests of the various types of colleges in the Association, namely, small, large, private, independent and public.

Dr. E. G. Williamson, Dean of Students at the University of Minnesota, will address the first general session of the convention on Wednesday, March 2. He will direct his remarks to the guidance "obligation" of the junior college. This is a good point of beginning. Many authorities, including Walter Crosby Eells, have considered guidance as the most important as well as the basic function of junior colleges and underlying the effective development and operation of other functions of these institutions. It is obvious that junior colleges enroll students with a wide range of abilities, interests, aptitudes and goals. In the minds of some leaders in the field, the junior college will serve as an important "distributing agency" with heavy responsibilities for screening and counseling because of the options available to the

students in junior colleges with comprehensive programs. Recent studies, however, have revealed that in many of these institutions there are serious weaknesses in student personnel services including that of guidance. Yet, any junior college administrator will undoubtedly say that he agrees that guidance is a basic obligation. It seems fair to say that the demands made upon these institutions for competence in the guidance field and the situation as it actually exists are some distance apart.

The second general session will be addressed by Dr. Ralph Tyler, Director of the Center for the Advanced Study of the Behavioral Sciences at Palo Alto, California. He will give his attention to the teaching obligation in junior colleges. It has often been said that the junior college is a teaching institution, and that some of the best teaching is done in the junior colleges of the country. Again, the characteristics of students enrolling in the junior colleges of the country, the rapidly increasing numbers of students, and the great need for more teachers raise some very serious questions about how teachers can become more effective in their work.

The third general session will deal with community services. An outstanding speaker has been contacted and announcement of his name will be made in the near future. Following each one of the general sessions, there will be opportunity for representatives of various kinds of institutions to discuss the salient points made by the speakers as those might apply to their own situations.

Of great importance in the convention program, in addition to the general presentations, will be the section meetings sponsored by the various commissions of the Association. For several months the chairmen as well as the members of these commissions have been planning the programs for which they are responsible. Hundreds of people have been asked what questions they wish to have discussed at the convention so that the problems considered will be real ones that are being met by acting administrators.

Scheduling has been a result of cooperation with the officers of the Association for Higher Education of the National Education Association so that those people wishing to attend the Louisville Convention can travel on Saturday, March 5, to Chicago and arrive there in ample time for the opening of the Association for Higher Education Convention on Sunday night.

* * * *

The Commission on Administration of the American Association of Junior Colleges is meeting in Chicago November 9 and 10. Frederic T. Giles, Dean of Everett Junior College, Washington, the current chairman of the commission, will preside. Fifteen of the 16 members are expected to be present. The major part of the two-day session will be spent in considering the types of programs that appear to be essential for the preparation of junior college administrators. The commission also will discuss ways of providing institutes, workshops or summer seminar opportunities for those persons who are now engaged in junior college administration and who wish to increase their competence. A report of the Commission's recommendations will be made available to universities having an interest in the professional preparation of junior college administrative personnel.

Another significant meeting is planned for January 15–17 in Dallas, Texas. The Board of Directors of the Association and chairmen of the five commissions and the editorial board will meet in that city to formulate plans for future activities of the American Association of Junior Colleges. Also present for the meeting will be Dr. James Reynolds, Editor of the *Junior College Journal* and Dr. C. C. Colvert, Chairman of the Association's Council on Research and Service.

Marvin C. Knudson, President of the American Association of Junior Colleges, will chair the proceedings and introduce the sessions with a paper on the status of the junior college today as well as an indication of major problems and issues before the junior college in the decade ahead of us. Other items on the agenda include a review of significant projects to which the Association has given its attention in the past and an examination of questions with which the Association must deal as an organization. Each commission chairman will present his ideas of what he feels his respective commission ought to be doing to serve the junior colleges of the country more adequately. Types of publications needed by the Association will be considered. Board members will present papers in which they will make concrete recommendations of ways in which the Association can enrich and strengthen its services to its member institutions and to education as a whole.

The Board of Directors and Council on Research and Service hope by this means to equip themselves better for the kind of leadership needed in junior college education and most specifically to prepare for the March convention and the added responsibilities which have come to the Association as a result of the recent financial commitment by W. K. Kellogg Foundation.

* * * *

Occupational Outlook Quarterly, published by the Bureau of Labor Statistics, United States Department of Labor, includes much information which deserves to be required reading by teachers and administrators in the country's junior colleges. The issue for September, 1959, has comments regarding the 1959 edition of *Occupational Outlook Handbook,* which is to be published sometime before the first of the year. The new *Handbook* will have much to say about tomorrow's world of work.

In 1958 a population of 174 million, with 71 million workers, produced over 400 billion dollars worth of goods and services; in 1970, the nation will have a population of more than 200 million, with about 87 million workers producing near-$700 billions in goods and services. This growth is in itself a major force in shaping future job opportunities. It means that in 1970, there will be 16 million new job opportunities. It means that in 1970, there will be 16 million new job opportunities over and above the openings resulting from retirements and deaths of persons now in the labor force.

The *Handbook* points out that economic growth in these broad terms is impressive, and if all fields of work shared equally in it, the story would end there. But experience shows that some occupations and industries grow rapidly, some grow slowly or not at all and a few fields decline in importance over the years. It is this fact that makes the outlook sections of the *Occupational Outlook Handbook* of significance to young people.

These sections show how each occupation in industry is expected to fare in terms of employment opportunities in the future.

For example, it is common knowledge that farm employment has been declining. Only one person in ten now makes his living at farming as compared with one in two back in 1870. The decline in agricultural employment will probably continue because of technological advances. As a result, openings in this field will arise mainly from deaths and retirements.

Employment in all other industries will increase in the coming decade. When the expected growth rates of each of the remaining broad industry divisions are compared, it appears that employment and finance, insurance and real estate will grow fastest followed by construction, services, trade and communications and public utilities. Manufacturing, mining and government will grow at a slower rate with transportation ranking last in expected rate of growth.

Professional and technical occupations are expected to grow most rapidly followed by clerical and sales occupations. Farm workers, as would be expected, will decline considerably relative to the number of workers in other fields, while service workers will just about hold their own. The proportion of blue collar workers as a whole will not change much; the proportion of craftsmen will increase considerably, but there will be a decline in the proportion of laborers. The conclusion to be drawn from all of this is that the outlook will be best for those jobs which require the most education and training.

Teaching, the largest of the professions, will continue to enjoy favorable employment prospects. The high birth rates in the late 1940's and the 1950's will bring enrollments to unprecedented levels resulting in heavy demands for new teachers. In addition, thousands of openings for new teachers, especially in the elementary schools, will arise from the need to replace those who leave the profession.

Employment of technicians, especially those who work with scientists and engineers, will increase rapidly in the coming decade as industrial and military technology becomes more complex. This field will continue to offer excellent opportunities to young people with scientific and mathematical aptitude who do not plan on four years of college.

The *Occupational Outlook Quarterly* emphasizes the fact that occupational plans like other plans must often be changed to fit new situations. The young person who is adjusting to vocational life does not always stick by his original goal. After a few years in a job he may discover that he likes another occupation better than the one in which he is trained. He may have selected wisely an expanding industry but finds himself with a company that is not doing very well. Then again, personal circumstances, such as ill health, family problems or financial pressures may force him out of the career pattern he has envisaged. He must be prepared for changes in jobs and for possible changes in occupations. These considerations often suggest the need for the broadest kinds of training available commensurate with adequate preparation for a particular field. Junior college people will also recognize that the factors enumerated support the need for retraining opportunities. There seems every indication that continuing education and adult edu-

cation will be one of the major responsibilities of the junior college during the next 10 years.

* * * *

In connection with the implications made above that the junior college has a great deal to do with the vocational preparation of its students, it is interesting to note certain comments included in a letter from Professor C. Gilbert Wrenn of the University of Minnesota. The letter reached the Executive Director from England where Professor Wrenn is studying student personnel work in British universities and colleges. "Junior colleges have long been a concern of mine since early days at Stanford and my association with Walter Eells. I have great affection for and confidence in the junior colleges and even some ideas on personnel work in junior colleges. Vocational choice is tied in so closely with junior-senior college decisions on the one hand—the demands of the culture and the institution —and on the other hand, with the student's self-perceptions and who he thinks he is, that the junior college period is probably the most critical and searching decision time in an individual's life. And so much depends upon the psychological insights of those who work with those students."

The Junior College World

EDMUND J. GLEAZER, JR.

Highly gifted students in all Los Angeles City senior high schools are now able to expand their educational opportunities by taking junior college courses while still enrolled in high school as seniors. The students will begin classes in the Los Angeles City School System's junior colleges this February. High schools in the system will be divided into geographical areas, and students will be assigned to the Los Angeles junior college most centrally located in their area. Each high school wishing to participate in the cooperative educational program with the colleges may have a maximum of five students, selected by the principal of each high school, participate in the program.

Actual selection of students will be done by the individual colleges, with a maximum of 25 students each being picked by six of the colleges. Los Angeles City College will select a maximum of 50 students.

Students participating in the program will enroll in regularly scheduled junior college classes and not in any special classes composed entirely of high school students. Enrollment will be permitted in regular day classes offered during the fall or spring semesters. Each student may enroll in either morning or afternoon classes offered by the college, depending on the time left available from his regular high school program. A student will be permitted to take only one college-level class which is scheduled to meet for not more than five hours each week, providing he is enrolled in the high school for the minimum school day.

Regular college credit will be given to any high school pupil completing the course with a passing grade. Units of credit earned may be applied toward the requirements for the Associate in Arts degree. In addition, the University of California and the University of Southern California have stated that they will accept up to nine units of credit earned in this type of cooperative high school program. However, students enrolled in this experimental program will not be allowed double credit for work taken. For instance, they may not apply their units of credit toward a college degree and at the same time use these credits to meet requirements for the high school diploma.

Inauguration of the program was made legally possible by laws passed by the state legislature this year.

A study has recently been completed of students transferring from nine women's junior colleges to the University of Michigan from 1950 to 1958. According to Mr. John T. Prentice of the Admissions Office at the University, the college record is still considered the most important part of the transfer student's application. The pattern of courses and the academic performance are measured by this official record which furnishes the admissions office with the basic core to which is added all other information to be considered in determining the acceptance of the transfer student.

Mr. Prentice points out the difficulty of determining the precise meaning of the collegiate record since it varies according to the institution. In his opinion it becomes increasingly apparent that the university must learn more about the students transferring from each of the colleges that send any substantial number of students. Approximately 2,000 undergraduate transfer students enter the University of Michigan each year.

Mr. Prentice believes that it must be the university's responsibility to offer a strong orientation program for transfer students; to see that all transfer students are made as fully aware as possible of the rules, regulations, registration processes, academic counseling, and all such facilities available to them. Such an orientation program cannot be offered in a three-day pre-registration session. It must begin at the time the student originally contacts the university for information and continue until he is well established both academically and socially. Obviously even the best orientation program will not succeed if there has not been proper preparation in the junior college.

Accordingly, the junior college must accept the responsibility of offering a program adequate to qualify the transfer for the type of competition and studies he will encounter at the university. The junior college should also maintain a strong guidance program to help the student make a proper academic or vocational decision. This counsel should include a frank summary of the responsibilities the student must assume, the keen competition of the academic life at the university and the serious appraisal of the student's goals in view of his aptitudes and achievements.

As a result of continuing studies at the University of Michigan, students planning to transfer are encouraged to complete two full years elsewhere before coming to the University if they cannot enter as freshmen. Apparently a student has a better chance of succeeding at the University of Michigan if he transfers as a junior instead of as a sophomore.

* * * *

El Camino College, California, opened the college year with an institute session in which 32 new instructors and members of the college administrative staff were introduced to the college. Seven workshops were provided for the total faculty of 251 persons, each of these workshops devoted to a distinctive phase of public relations. The topics included: 1. The community image of El Camino College, 2. El Camino College articulation with high schools, 3. El Camino College articulation with colleges and universities, 4. The instructor and public relations, 5. Relations with business and industry, 6. The press, sir, is on you, 7. The student and school relations.

El Camino College enrollments reveal

a development widely noted this year, the predominance of students attending evening classes. The total enrollment is estimated at 11,200 students, with 3,800 full-time enrollees and 6,700 attending college after 5 p.m.

* * * *

Bennett College, Millbrook, New York, now offers an overseas service program designed to prepare young women to serve as well-trained and well-adjusted staff members in American offices in other countries, both private and governmental, and to equip them to act in all their contacts as representatives of the best in the American way of life. The program will include 1. a substantial liberal education having two points of emphasis: United States history, institutions and thought as well as comparative study of other countries and cultures; 2. rigorous training in basic secretarial operations and a grounding in the principles of organization, management and personal public relations essential to the functioning of an effective secretary; 3. orientation to the ways and customs of life in foreign countries with special attention to the role of women in foreign affairs, as employees, wives, citizens; 4. language training in French, Spanish or German using modern audio techniques emphasizing practical as well as cultural use of the spoken language; 5. a post graduate period embracing life with a foreign family, some study and, as circumstances permit, apprentice work in a private or governmental establishment abroad; 6. aid and counsel in finding a position at a suitable level of responsibility upon completion of the program.

The director of the program, Mr. Elvin Seibert, came to Bennett College from the Department of State. Mr. Seibert has served in diplomatic, consular and special capacities at 11 posts on four continents and five islands, his last assignment abroad having been as Consul General at Amsterdam.

* * * *

The six junior colleges in southeast Kansas have joined with the Kansas State Board of Vocational Education, Mid America, Inc., and Pittsburg State College to sponsor a survey of manufacturing operations in southeast Kansas. The six junior colleges and the state college all have vocational training programs which prepare men and women for industrial work requiring special skills. The joint interest of these various groups representing education and industry is expressed in the foreword of the southeast Kansas survey in these words, "This survey is designed to assist the people of southeast Kansas, particularly its educators and industrialists, in spotting the strategic points in which local educational resources can be used to expand the vocational skills of the inhabitants. The greater the skills of its people, the greater the opportunities to hold and develop desirable industry."

One of the significant findings in the survey is that existing industries, some of which have had difficulty in finding trained men, have not known of the college facilities to train the people they need.

* * * *

*A Research Institute has been estab-*lished at Flint Junior College, Michigan. The Institute has the following objectives: 1. to provide the community and college with a research center with facilities not now easily obtainable; 2. to provide an opportunity for junior college instructors to develop further professional

ability and recognition; 3. to provide an opportunity for local professional people to do research; 4. to promote students in research; 5. to integrate the use of equipment for research and teaching purposes; 6. to develop Flint Junior College as a center for applied research.

The research center will provide facilities and personnel for study in biology, botany, geology, geography, physics, mathematics, chemistry, and other sciences. The work of the Institute will be supported through government grants and contracts, foundation grants, and industrial grants. Support may also come from national societies, individuals, alumni, and state organizations.

* * * *

Skagit Valley College, Mount Vernon, Washington, has dedicated its new 35-acre, $1,450,000, seven-building campus. The new cluster of buildings represents the first permanent home the college has enjoyed in its 33-year existence. Since 1926 the college's "campus" has been some top floors and a cafeteria at Mount Vernon High School and since 1948, three surplus Army hospital buildings. Approximately 600 students are enrolled this fall compared with a total of 57 in 1952.

Between 1954 and 1959 serious consideration was given by community leaders to the ways in which they felt the college should develop. A Citizen's Committee was selected to interpret to the community the necessity for a strong community-type college. In 1957, a $469,000 bond issue was approved. The state of Washington has furnished almost $1,000,000 in matching funds to be used for construction only. Students, faculty and community adults have also made substantial contributions toward equipping and furnishing the new institution.

* * * *

At Odessa College, Texas, the new School of Instrumentation Technology has opened with classes planned at two different levels. One section of instrumentation instruction is aimed primarily at gasoline plant operators and another at engineers and instrument men. Sessions will meet three hours each night for ten weeks. The course for plant operators will stress efficiency in using instruments, while the course for engineers and instrument men will go into design and maintenance. Both courses are designed to give additional training for persons in the field.

Inquiries have been received from Europe, Turkey and South America indicating wide interest in the program. It is co-sponsored by the University of Texas and Odessa College. The University and private industry will furnish the necessary highly specialized equipment. The instrumentation course is believed to be the only one of its kind in the world and is expected to receive the same widespread attention as the School of Drilling Technology.

Certificates of completion will be awarded at the close of the courses, but they will carry no college credit.

* * * *

Ten credit telecourses are being offered by the Chicago City Junior College during the fall semester of 1959 over WTTW, Channel 11. The Chicago Board of Education offering on WTTW embraces the largest offering of credit telecourses on a single channel anywhere in the world. Chicago's TV College is a unique venture in that television courses may lead to the

Associate in Arts degree. Visitors from hundreds of other cities and educational institutions and from a number of foreign countries have come to Chicago to observe techniques and to study the organization of TV College.

TV College was founded in 1956 after the Chicago Board of Education was given a grant of $475,000 to help in the financing of the experiment in the first three years. This grant, from the Fund for the Advancement of Education, was exhausted in June of this year, but the Chicago City Junior College is continuing its cooperative program with WTTW.

Altogether, 31 different college courses have been presented on TV College since the fall of 1956. Almost 100 teachers have appeared on television. Another 100 or more have been involved in the TV College program as section teachers, meeting students for conferences and quizzes on a regular schedule. The number of conferences varies with the subject from four to nine per semester. The students of Russian 101 have the maximum of nine conferences per semester.

The Modern Elementary School, by Wilbur H. Dutton and John A. Hockett (530 pp.; Rinehart; $5.50).

The Modern Elementary School, Rinehart's latest printing in the elementary methods field, has been jointly authored by Wilbur H. Dutton and John A. Hockett, both of the University of Southern California. It is intended for use as a text at colleges offering only one general methods course, and is itself an attempt to present in one package a survey of teaching methods in the elementary grades. As such, it is a commendable effort to reduce an overly elaborated field to one course offering and one text.

The book has three major sections, the first and third of which, while doubtless germane to the issue of methods, within themselves contain material usually offered as separate subjects to teachers in training. Part One, for example, offers chapters (2 and 3) on "Child Development and the Learning Process," and "The Curriculum of the Elementary School." Part Three offers chapters (16 and 17) on "Guidance in the Elementary Schools" and "Evaluating Pupil Progress." Actually, then, the whole text, 530 pages in all, including the index, covers, at least in outline, the whole field of elementary education.

The great bulk of this text, chapters 4 through 14, deals with methods for teaching in various subject matter areas: oral and written language, handwriting, spelling, reading (primary and middle grades in separate chapters), arithmetic, social studies, science, art, music, and health education. In spite of the fact that the atmosphere of the standard education textbook lies rather heavily across the prose, burying the author's intent and the student's desire in an avalanche of educationist jargon, these chapters on methods offer much practical advice to the would-be teacher, particularly in the planning and execution of "meaningful experiences." Each chapter presents one subject matter area, which not only gives the student a chance to "explore" the whole elementary field, but acquaints him, by means of a slightly elaborated outline, with the very basic steps that must be taken in presenting material of different kinds. There is some discussion also of the basic factors to be considered in the matter of motivation.

In every area the authors favor the "developmental approach" and are very much opposed to drill, as such, or any arbitrary organization of work by the teacher without reference to the "needs and capabilities" of the individual student. Aside from the fact that the whole approach of the book is one calculated to inspire the heads of education departments with visions of crumbling paper empires, two things militate against widespread adoption of the book as a text. First, it contains no new or fresh concepts or practices; it is simply a distillate of materials and ideas now being offered in more elaborated programs. Second, it was apparently written from a tightly organized outline, to which the writing has added nothing more than the fullness of good grammatical usage.

At its best, then, the book offers the student a comprehensive outline of the problems to be faced in elementary teaching, together with the solutions indicated by the developmental approach. At its worst, it leaves to others the problem of writing a methods text for courses as they are actually taught, in schools as they actually are.

David G. Hunt
Odessa College
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